U.S. ARMY CORPS OF ENGINEERS
CIVIL WORKS PROGRAM

CONGRESSIONAL SUBMISSION
FISCAL YEAR 2006

REMAINING ITEMS

Budgetary information will not be released
Outside the Department of the Army until
7 February 2005

Justification of Estimates for Civil Functions Activities
Department of the Army, Corps of Engineers
Fiscal Year 2006

REMAINING ITEMS

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SUMMARY OF REMAINING ITEMS

GENERAL INVESTIGATIONS

	FY 2005 Conference	FY 2006 Request	Increase (Decrease)
	$	$	$
1. Surveys	12,675,000	8,924,000	(3,751,000)
c. Special Studies	375,000	375,000	0
e. Coordination with Other Federal Agencies, States, and Non-Federal Interests	12,300,000	8,549,000	(3,751,000)
(1) Planning Assistance to States	8,000,000	4,650,000	(3,350,000)
(2) Other Coordination Programs			
(a) Special Investigations	1,795,000	1,799,000	4,000
(b) Gulf of Mexico Program	130,000	131,000	1,000
(c) Chesapeake Bay Program	75,000	75,000	0
(d) Pacific Northwest Forest Case Study	75,000	75,000	0
(e) Interagency Water Resources Development	900,000	900,000	0
(f) Interagency and International Support	113,000	113,000	0
(g) Inventory of Dams	222,000	222,000	0
(h) National Estuary Program	75,000	75,000	0
(i) North American Waterfowl Management Plan	75,000	75,000	0
(j) Coordination with Other Water Resources Ager	246,000	246,000	0
(k) CALFED	94,000	94,000	0
(l) Lake Tahoe, NV	500,000	94,000	(406,000)

Justification of Estimates for Civil Functions Activities
Department of the Army, Corps of Engineers
Fiscal Year 2006

SUMMARY OF REMAINING ITEMS

GENERAL INVESTIGATIONS

	FY 2005 Conference	FY 2006 Request	Increase (Decrease)
	$	$	$
2. Collection and Study of Basic Data	14,462,000	10,274,000	(4,188,000)
a. Flood Plain Management Services	6,813,000	5,625,000	(1,188,000)
c. Other Programs			
(1) Stream Gaging (U.S. Geological Survey)	600,000	600,000	0
(2) Precipitation Studies (National Weather Servic	225,000	225,000	0
(3) International Waters Studies	300,000	300,000	0
(4) Hydrologic Studies	300,000	300,000	0
(5) Scientific and Technical Information Centers	78,000	78,000	0
(6) Coastal Field Data Collection	4,875,000	1,875,000	(3,000,000)
(7) Transportation Systems	375,000	375,000	0
(8) Environmental Data Studies	94,000	94,000	0
(9) Remote Sensing	152,000	152,000	0
(10) Automated Information Systems Support	402,000	402,000	0
(11) Flood Damage Data Program	248,000	248,000	0
3. Research and Development	25,000,000	22,000,000	(3,000,000)
Totals	52,137,000	41,198,000	(10,939,000)

APPROPRIATION TITLE: General Investigations, FY 2006

1. Surveys

c. Special Studies

Study	Total Estimated Federal Cost	Allocation Prior to FY 2005	Allocation FY 2005	Tentative Allocation FY 2006	Additional to Complete After FY 2006
National Shoreline	7,000,000	949,000	375,000	375,000	5,301,000

SCOPE:
The study is an interagency effort to determine the extent and cause of shoreline erosion on all the coasts of the United States and to assess the economic and environmental impacts of that erosion. The study will analyze the appropriate Federal and non-Federal roles and the advisability of using a systems approach to sediment management for linking the management of all (shore protection, navigation channel dredging, and environmental restoration and preservation) projects in the coastal zone so as to conserve and efficiently manage the flow of sediment within littoral systems.

ACCOMPLISHMENTS:
FY 2002 funding initiated work on this study. The Fiscal Year 2005 efforts include:

1) Continue monitoring and reviewing progress in the various Regional Sediment Management (RSM) Demonstration projects around the nation and conducting a policy seminar on RMS issues.

2) Continue identifying data availability and data needs in order to complete the update and coordinate data collection and analysis efforts with the U.S. Geological Survey and the National Ocean Service

3) Conduct technical forums to identify technical guidelines for collecting and analyzing data on the extent and causes of shoreline erosion and accretion

4) Develop draft geomorphic, environmental, and economic assessment protocols to conduct the National Assessment

5) Initiate environmental analyses

6) Initiate identification of agency roles and contributions to shoreline management.

JUSTIFICATION:
FY 2006 funding would continue work on this study. The Fiscal Year 2006 efforts include:

1. $25,000 to continue monitoring and reviewing progress in the various Regional Sediment Management Demonstration projects around the nation.
2. $125,000 to finalize the geomorphic, environmental, and economic assessment protocols to conduct the National Assessment
3. $50,000 to continue identification of agency roles and contributions to shoreline management
4. $50,000 to continue economic research
5. $75,000 to continue environmental analyses
6. $50,000 for planning the regional assessment studies.
7. Section 215 of the Water Resources Development Act of 1999 provides the authority for conducting this study. Completion presently scheduled for 30 Sep 2008.

APPROPRIATION TITLE: General Investigations, FY 2006

1. Surveys

e. Coordination with Other Federal Agencies, States, and Non-Federal Interests

(1) Planning Assistance to States

SCOPE:
This Corps of Engineers program stems from Section 22 of the Water Resources Development Act of 1974, as amended, which authorizes the Secretary of the Army to assist States, local governments, Indian tribes, and other non-Federal entities in the preparation of comprehensive plans for the development, utilization, and conservation of water and related land resources. The studies are cost-shared on a 50% Federal, 50% non-Federal basis. The program can encompass many types of studies dealing with water resources issues, including environmental conservation/restoration, wetlands evaluation, water supply and demand, water quality, flood damage reduction, coastal zone management, and dam safety.

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2006-2010) Program Cost	$40,000,000
Allocation Requested for FY 2006	4,650,000
Balance to Complete Five-Year Program after FY 2006	35,350,000
Allocation for FY 2005	8,000,000
Change in FY 2006 from FY 2005	-3,350,000
Average Annual Allocation for FY 2001-2005	6,880,000

JUSTIFICATION:
The Planning Assistance to States program has continued to evolve into a highly effective tool for providing technical and planning assistance to states, local governments, and Indian tribes. These customers recognize the need to develop locally directed solutions to their water resources problems. Interest from states, regional and local governments, Indian tribes, and other non-Federal public agencies in this highly efficient and effective Program continues to grow. The FY 2005 amount will enable the Corps to provide much needed planning and technical assistance to aid them in a wide variety of water resource efforts, including environmental restoration studies, watershed planning, and flood plain management planning. Currently, there are ongoing studies that require additional funds to complete, and a number of unfunded studies that have been identified by states, communities, and Indian Tribes as high priority studies. The FY 2006 request will allow the Corps to continue and complete ongoing studies, and initiate additional high priority studies.

ACCOMPLISHMENTS:
In fiscal year 2004, the Corps of Engineers had 340 studies underway in 44 states, the District of Columbia, Puerto Rico, Virgin Islands, Guam, the Northern Mariana Islands, American Samoa, and for Federally-recognized Indian tribes. These studies provided technical and planning assistance for a full range of water resources issues. Significant efforts involved studies to assist local communities in restoring urban river environments, and accomplishing wetlands identification and mapping studies. In addition, efforts were undertaken to assist states and local governments in ecosystem restoration, drinking water supply and demand, water quality, and flood damage reduction.

APPROPRIATION TITLE: General Investigations, FY 2006

1. Surveys

e. Coordination with Other Federal Agencies, States, and Non-Federal Interests (Continued)

(2) Other Coordination Programs

Allocation For FY 2005 4,300,000 Tentative Allocation FY 2006 $3,899,000

(a) The Special Investigations request is $1,799,000. The amount of $150,000 provides for the review of preliminary permit and licenses applications for non-Federal hydroelectric power development either at or affecting Corps water resource projects. The amount of $1,645,000 provides for (1) special investigations and reports of nominal scope prepared pursuant to Congressional and other requests from outside the Corps of Engineers for information relative to projects or activities which have no funds; (2) similar work of detailed scope, as specifically authorized by the Chief of Engineers; and (3) review of reports and environmental impact statements of other agencies. Among the investigations paid for from these funds are investigations of nominal scope of flooding potential and flood damages, drainage, harbor improvements, anchorages, and development of navigation channels.

(b) The Gulf of Mexico Program (GMP) request is $131,000. The purpose of the GMP is to formulate and implement creative solutions to economic and environmental issues with Gulf-wide and national implications. Hypoxia/nutrient enrichment, Habitat, Public Health (Shellfish) and Non-indigenous Species are the focus issue areas, which are linked to authorized Corps missions in the five-state GMP area. The Hypoxia and Habitat focus areas are now getting more emphasis...through the Clean Water Action Plan and links to a multitude of Corps programs. U.S. Environmental Protection Agency-initiated, the GMP is partnership-driven, blending the programs and resources of Federal, state and local governments, with the resources and commitments of business, industry, citizens groups and academia. The Corps has a full time staff member serving as liaison to the GMP Office (GMPO). That individual's primary duty is to provide the linkage between the Southwestern, Mississippi Valley and South Atlantic Major Subordinate Commands and their districts and the current and evolving activities of the GMP/GMPO. Personnel from several districts and divisions serve on various committees and focus area groups. Secondary duties of the Corps liaison include: 1) coordinating with and supporting the Corps representative on the GMP's Management Committee as well as the DOD representative serving on the GMP's Policy Review Board; 2) functioning as the Corps' alternate Management Committee representative; 3) functioning as a GMPO Interagency Management Team Member; 4) mentoring the GMPO Habitat Focus Team; and, 5) serving as a member of the GMPO Hypoxia Focus Team. The Corps liaison also serves as the Corps' functional and program link to the Coastal America-Gulf of Mexico Regional Implementation Team (RIT). The requested funds will allow partial participation of the Corps in implementation of GMP-formulated initiatives.

1. Surveys

e. Coordination with Other Federal Agencies, States, and Non-Federal Interests

(2) Other Coordination Programs (continued)

(c) Chesapeake Bay Program. The amount of $75,000 is requested to continue activities initiated under Special Investigations. The Chesapeake Bay Program (CBP) is an interagency program, initiated by the US Environmental Protection Agency (EPA), for the protection and restoration of the bay's natural resources. These natural resources have tremendous environmental and economic significance to the northeast region and to the Nation. Following extensive Corps of Engineers investigations and EPA studies in the 1970's and early 1980's, it became increasingly clear that the Chesapeake Bay as a system was under intense pressure from development and overuse and was undergoing degradation in water quality, living resources and other ecological indicators. With the funds requested, the Baltimore District will continue participation in the CBP Implementation Committee and the Federal Agencies Subcommittee addressing various subjects such as wetlands, submerged aquatic vegetation, and land stewardship. The Baltimore District will accomplish limited work associated with the lead on two initiatives (Anacostia Biennial Workplan and Chesapeake Bay Habitat Restoration) from the Agreement of Federal Agencies on Ecosystem Management in the Chesapeake Bay signed in July 1994 and its successor, the Federal Agencies Chesapeake Ecosystem Unified Plan (FACEUP) signed by the ASA(CW) in 1998, as well as participating in workgroups on other aspects of the agreements. ASA(CW) was a signatory on a Special Tributary Strategy for Federal Lands in the District of Columbia agreement that commits the Corps to develop stormwater pollution prevention and nutrients management plans. Many of these actions affect Corps authorized missions in the Chesapeake Bay. It is very important for the Corps representatives to be active members of the CBP Implementation Committee, the Federal Agencies Subcommittee, the Federal Agencies Subcommittee and other working groups.

(d) The Pacific Northwest Forest Case Study request is $75,000. The Northwest Forest Plan (NFP) is an interagency program, initiated by the White House's Council of Environmental Quality, for ecosystem management of watersheds within the public lands in the Pacific Northwest within the range of the Northern Spotted Owl (24,000,000 acres). The NFP institutes an interagency approach for restoring and protecting animal and plant species on public lands and restoration of environmental habitats. In FY 1999, the Corps of Engineers became an official signatory agency to the NFP Memorandum of Understanding. However, due to reduced funding over the past several years, the Corps did not resign the new MOU in 2003. With the funds requested, Portland District will participate in NFP activities as an adjunct representative to the various regional executive and management committees on a part-time basis. NFP participants are presently concentrating on further refining the scopes of agency participation and contributions with the goal of streamlining the implementation of timber and restoration activities within its watershed-scale ecosystem management strategies. Many of these strategies and programs involve, and will benefit from, the Corps authorized missions throughout the western states. The NFP presents the best outreach opportunity for the Corps to expand its involvement with the other agencies of the Federal and State communities to use all of our engineering and environmental capabilities to address many of government's missions.

1. Surveys

e. Coordination with Other Federal Agencies, States, and Non-Federal Interests

(2) Other Coordination Programs (continued)

(e) The Interagency Water Resources Development request is $900,000. This amount provides $750,000 for Corps of Engineers district activities, not otherwise funded, that require coordination effort with non-Federal interests. These activities include items such as meeting with City, County and State officials to help them solve water resources problems when they have sought advice or to determine whether Corps programs are available and may be used to address the problems. This will also cover costs of meeting with potential study sponsors before studies are budgeted to insure they understand study cost sharing and to obtain an indication of their interest in participating in a future study. It also provides $150,000 for two American Heritage River Navigators who are supported by the US Army Corps of Engineers, based upon Executive Order 13061, dated 11 September 1997. These River Navigators provide direct support to the Community Partners for the New River, which flows through NC, VA and WV; and for the Upper Mississippi River above St. Louis, MO. The navigators assist the individual communities and community partners in accessing a variety of Federal programs to achieve the goals in the river workplans. These workplans are a product of river community partners' locally driven, watershed management approaches. Goals include economic revitalization, environmental restoration, and historic and cultural preservation. Immediate targets in the communities' river workplans include improvements such as land cleanup, alternative agriculture and aquaculture projects, community revitalization, educational outreach, stormwater runoff, downtown and riverfront improvements and preservation of historic features in river communities. The River Navigators provide a conduit and coordination link between the community partners and the various Federal programs that might apply to, and provide funding sources for the individual community projects.

(f) The Interagency and International Support request is $113,000 to allow the Corps of Engineers to participate with other Federal agencies and international organizations to address problems of national significance to the United States. The Corps of Engineers has widely recognized expertise and experience in water resources, infrastructure planning and development, and environmental protection and restoration. Frequently, other Federal agencies, particularly the State Department, the Agency for International Development, and international organizations, request use of the Corps talents in addressing problems of utmost importance to the United States. Often the requesting entity is not able to reimburse all Corps costs, including salaries, but yet the success of the program can be greatly enhanced by employing the talents of the Corps. In many cases the Corps abilities to perform its civil works mission or promote opportunities in the U.S. private sector are also enhanced. In FY 2005, the program funds are being used to support the State Department on Middle East (including Afghanistan and Iraq) and other global water issues, the Millennium Challenge Corporation, the World Water Council, and agencies of the United Nations including UNESCO on water-related issues, and other initiatives of national importance. The requested funds will be used to cover Corps salary and travel costs not otherwise available. International activities will be undertaken only after consultation with the State Department.

1. Surveys

e. Coordination with Other Federal Agencies, States, and Non-Federal Interests

(2) Other Coordination Programs (continued)

(g) The Inventory of Dams request is $222,000. These funds will be used for continued maintenance and publication of the National Dam Inventory. Section 215 of the Water Resources Development Act of 1996 (Public Law 104-303) authorized $500,000 to be appropriated each fiscal year for the maintenance and publication of the National Dam Inventory. This authorization was continued in the Dam Safety and Security Act of 2002 (Public Law 107-310). This funding level will provide maintenance of the inventory but does not assure completeness of the inventory for public safety and security purposes. Integration of the National Inventory of Dams with the Dam Security and Analysis System to identify terrorist threats to dams will be accomplished in future fiscal years. The Inventory was initially compiled in 1975 has been periodically updated to reflect construction of new dams, ownership changes, major modifications to existing dams, decommissioning and removal of dams, and improvements in the accuracy and completeness of the data. The current update includes over 78,000 dams, and focuses on current technology, integrating computer software into the inventory package to improve the ease of use, accuracy, and accessibility of the data. These funds will be used to implement improved information flow and data quality control processes, to greatly enhance the state of knowledge management for dam safety. The inventory will continue to be improved utilizing rapidly evolving technology including enhanced World Wide Web access, a Geographic Information System (GIS) interface, and integration with other dam safety resources. The importance of continued maintenance and publication of the National Dam Inventory has increased. The inventory is now required for use by the Secretary of Homeland Defense and the National Dam Safety Review Board in the allocation of dam safety program assistance funds to the various States in proportion to the number of dams in the state. Inventory data is also included in the biennial report to Congress on the National Dam Safety Program. The Inventory also plays an important role in the identification of infrastructure in risk due to terrorist activities. Additional efforts are also required to ensure data security in response to Homeland Defense activities. The ongoing maintenance and publishing of the Inventory is a coordinated effort involving data from the Federal and non-federal Dam Safety community in cooperation with the Interagency Committee on Dam Safety (ICODS) and the Association of State Dam Safety Officials (ASDSO).

(h) The National Estuary Program request is $75,000. These funds will be used to participate with Federal and State agencies in the National Estuary Program (NEP) administered by the Environmental Protection Agency under the Water Quality Act of 1987 (Section 320 of PL 100-4). The NEP is an interagency planning program to develop management plans for nationally significant estuaries designated by the EPA. To date, the following 28 estuaries have been designated under the program: Puget Sound, WA; Delaware Estuary, DE, NJ & PA; and Delaware Inland Bays, DE; New York/New Jersey Harbor, NY-NJ; Sarasota Bay, FL; Santa Monica Bay, CA; San Francisco Bay, CA; Galveston Bay, TX; Albermarle/Pamlico Sound, NC; Buzzards Bay, MA; Narrangansett Bay, RI; and Long Island Sound, CT-NY, NY; Massachusetts Bay, MA; Barataria/Terrebonne Bays, LA; Indian River Lagoon, FL; Casco Bay, ME; Tampa Bay, Fl; San Juan Bay, PR; Corpus Christi Bay, TX; Tillamook Bay, OR; Peconic Bay, NY, Barnegat Bay, NJ; Charlotte Harbor, FL; Lower Columbia River Estuary, OR & WA; Maryland Coastal Bays, MD; Mobile Bay, AL; Morro Bay, CA; and New Hampshire Estuaries, NH. Because of extensive Corps involvement with Federal water resources projects in the nation’s estuaries and other responsibilities in waters of the U.S., the Corps has been asked to participate on the management and technical advisory committees of those NEP estuaries being studied. The requested funds would be used to cover costs of Corps field office meeting attendance, field reconnaissance, and data transfer. Because of similar objectives, these funds could be used for similar coordination activities conducted under the Coast America initiative.

1. Surveys

e. Coordination with Other Federal Agencies, States, and Non-Federal Interests

(2) Other Coordination Programs (continued)

(i) The North American Waterfowl Management (NAWMP) request is $75,000. These funds will be used to continue cooperation with Federal and State agencies, and non-Federal interests in support of the NAWMP administered by the Department of the Interior, Fish and Wildlife Service. The NAWMP is an international program designed to reverse downward trends in North America's waterfowl populations by protecting and improving waterfowl habitats nationwide, particularly in 34 areas within the United States identified as being critical to meeting NAWMP goals and objectives. Department of the Army support to the NAWMP is set forth in an agreement signed with the Department of the Interior on January 23, 1989. The Corps of Engineers has broad water resources development responsibilities and authorities and has stewardship responsibilities for over seven million acres of water and land. Many Corps of Engineers projects contribute directly or indirectly to the habitat base for the nation's waterfowl, and other wetland species. Current and future Corps of Engineer projects are expected to play an even greater role, particularly during years of low rainfall. Also, the Corps of Engineers has recognized extensive environmental engineering and technical expertise and experience that can contribute greatly toward meeting the NAWMP waterfowl habitat improvement goals and objectives. The requested funds would be used to cover costs of Corps of Engineers field office participation in the field trips, interagency coordination meetings, and information transfer in response to conditions set forth in the agreement between the Department of the Interior and the Department of the Army. Because of similar objectives, these funds could also be used for similar coordination activities conducted under the Coastal America initiative.

(j) The Coordination With Other Water Resources Agencies request is $246,000. Cooperation with the Department of Agriculture (USDA) is under the Watershed Protection and Flood Prevention Act of 1954 (Section 5 of PL 566-83), as amended; the Flood Control Act of December 22, 1944 (Section 1 of PL 534-78), as amended; and the National Environmental Policy Act of 1969 (PL 91-190). Executive Order No. 10913, dated 18 January 1961, requires that cognizance be taken of constructed and contemplated upstream and downstream USDA works, and that plans be submitted to the Secretary of the Army for review and comment prior to their transmission to the Congress through the President. As the agency responsible for the flood control features of basin program, the Corps of Engineers must provide the Department of Agriculture with information on proposed Corps projects, including their effect on contemplated watershed programs. The Corps is also required by Section 102 (2)(c) of the National Environmental Policy Act of 1969 to review the environmental impacts that would result from installation of USDA project features. Cooperation with the Bureau of Reclamation of the Department of the Interior includes preparation of estimates of flood control requirements, and benefits, and reservoir operating criteria for storage reservoirs to be constructed with Federal funds, in accordance with Sections 1 and 7 of PL 534-78 and Section 7 of PL 984-84, as amended. Studies made by the Bureau of Reclamation of the flood control features of proposed reclamation projects are submitted to the Corps of Engineers for review and determination of the flood control benefits. The Corps of Engineers uses the data collected by the Bureau but makes an independent evaluation of the project. The Secretary of the Interior uses the report of the Chief of Engineers in making allocation of project costs to flood control. Corps representation is required for cooperation with Federal and state agencies such as River Basin Compact Commissions; Interstate River Basin Compacts; and Regional Planning Commissions in authorized, but unfunded investigations.

1. Surveys

e. Coordination with Other Federal Agencies, States, and Non-Federal Interests

(2) Other Coordination Programs (continued)

(k) The CALFED request is $94,000, which will be used to continue the coordination efforts in the CALFED Bay Delta process. The CALFED Bay-Delta Program is a three-phased solution process for the development of a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system. Phase I, the identification of the range of alternatives, was completed in fall 1996. Phase II was completed 28 Aug 00 with the signing of the Record of Decision (ROD) defining the programmatic plan. Phase III initiated Sep 00 is the first 7 years of a 30-year process. As outlined in the ROD, the Corps with the State of California are co-managers of the CALFED Phase III program element, Levee System Integrity, and will provide specific technical and implementation support.

(l) The Lake Tahoe request is $94,000. This funding is required to continue work associated with the Lake Tahoe Federal Interagency Partnership as directed in Executive Order 13057. The Federal Interagency Partnership is working with state and local agencies and public interest groups to arrest further deterioration of Lake Tahoe while maintain a viable economic climate. Efforts will include active participation in partnership activities, completion of regional hydrology study of Lake Tahoe Basin, program project planning for water quality projects in the Lake Tahoe Basin and program management in conjunction with Federal, state and local agencies.

2. Collection and Study of Basic Data

a. Flood Plain Management Services

SCOPE: This Corps of Engineers program stems from Section 206 of the 1960 Flood Control Act (PL 86-645), as amended, which authorizes the Secretary of the Army to compile and disseminate data on floods and flood damage potential and to provide guidance in their use in flood-related planning to State and local agencies. This information and guidance supports planning and implementing actions that reduce the flood hazard through wise use of flood plains. The Flood Plain Management Services Program provides flood hazard information, interpretation, and guidance for sites or short reaches of stream or coast and technical and planning assistance to states, communities and Indian Tribes; develops and disseminates guides and pamphlets to convey the nature of flood hazards and to foster public understanding of the options for dealing with flood hazards; and participates with the Federal Emergency Management Agency and local governments in the conduct of pre-disaster hurricane evacuation and preparedness studies for mobilizing local community responsiveness to natural disasters in high-hazard coastal areas.

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2006-2010) Program Cost	$50,000,000
Allocation Requested for FY 2006	5,625,000
Balance to Complete Five-Year Program after FY 2006	44,375,000
Allocation For FY 2005	6,813,000
Change in FY 2006 from FY 2005	-1,188,000
Average Annual Allocation for FY 2001-2005	8,002,600

JUSTIFICATION: The funds requested for FY 2005 are to address the growing number of requests from states, regional and local governments, Indian Tribes, and other non-Federal public agencies. An increase in funds allocation will enable states and local communities to become more involved in the application of flood plain management measures. It will provide them site-specific flood and flood plain data and assistance; assist with efforts to identify flood hazards in smaller communities under growth pressures; facilitate special studies that concentrate on the prevention of future flood damages, giving increased emphasis to the application of non-structural measures; and enable critical pre-disaster hurricane evacuation and preparedness studies for states and counties along the Atlantic and Pacific Oceans, the Gulf of Mexico, and US islands in the Caribbean and Pacific.

ACCOMPLISHMENTS: Responses to requests from Federal and non-Federal agencies, communities, Indian Tribes and individuals for flood-related information, interpretation, and guidance continue to number into the tens of thousands and involve property valued at billions of dollars. The Corps participated in pre-disaster hurricane evacuation and preparedness studies for high-hazard areas in coastal states and territories; provided support for updating and improving mathematical models of flood plain hydrology and hydraulics; developed training programs in flood plain hydrology and hydraulics; and prepared flood-proofing studies.

2. Collection and Study of Basic Data

c. Other programs

(1) Stream Gaging (U.S. Geological Survey)

SCOPE: The Corps of Engineers cooperates with the U.S. Geological Survey in this effort, and contributes funds for all or part of the cost of the operation and maintenance of about 2,520 stations that are of special importance to the Corps mission. The Corps established this continuing, cooperative program in March 1928, so that streamflow data would be available to meet special needs concerning the Corps water resources responsibilities.

SUMMARIZED FINANCIAL DATA:

Estimated Five-year (FY 2006-20010) Program Cost	$3,600,000
Allocation Requested for FY 2006	600,000
Balance to Complete Five-year Program after FY 2006	$3,000,000
Allocation for FY 2005	476,000
Change in FY 2006 from FY 2005	124,000
Average Annual Allocation for FY 2001-2005	585,000

JUSTIFICATION: The Corps of Engineers makes extensive use of streamflow records in the planning, design, construction, and operation of water resources projects. The Basic network of stream gaging stations operated by the Geological Survey under its normal functions without support from the Corps is inadequate to meet all the special needs of the Corps water resource development responsibilities. Accordingly, a cooperative program was established under which funds are transferred to the Survey to cover, partially, the cost of operating specific stations. In the optimum development and management of water resources, it is essential that continuous records of streamflow be maintained at specific sites over a long period of years to provide a reliable measure of water resources available for various uses. This budget item covers only the non-project portion of the cooperative program. To continue the operation of stations of special interest to the Corps, an estimated total of $16,400,000 will be required by the U.S. Geological Survey during FY 2006, exclusive of funds received from other cooperative sources. The operation and maintenance cost of these stations will be financed from three sources, as follows: (1) $560,000 appropriated directly to the U.S. Geological Survey for special Corps stations; (2) $600,000 from this budget item for stations not directly attributed to the Corps projects; and (3) $16400,000 from Corps funds budgeted elsewhere for authorized projects and studies. The basic program will remain at the same level as in previous years.

ACCOMPLISHMENTS: Records for the streamflow stations supported by transfer of funds are used primarily to operate Federal flood reduction projects. In the past ten years these projects have reduced flood damages by an average of $21.1 billion annually. Not only are these gages used by the Corps, but 100 percent of the data are used by the National Weather Service as the basis for its public flood forecasts. In addition, the data are published on the Internet by the Corps and/or in a regular series of reports by the U.S. Geological Survey and provide valuable information for many Federal and state agencies and the public.

COORDINATION: This program is fully coordinated with the U.S. Geological Survey. Costs for conducting the work are compiled by representatives of the Survey to identify a basis for the transfer of funds to that agency.

2. Collection and Study of Basic Data

c. Other Programs

(2) Precipitation Studies (National Weather Service)

SCOPE: The Corps of Engineers cooperates with the U.S. Geological Survey in this effort, and contributes funds for all or part of the cost of the operation and maintenance of about 2,520 stations that are of special importance to the Corps mission. The Corps established this continuing, cooperative program in March 1928, so that streamflow data would be available to meet special needs concerning the Corps water resources responsibilities.

SUMMARIZED FINANCIAL DATA:

Estimated Five-year (FY 2006-20010) Program Cost	$3,600,000
Allocation Requested for FY 2006	600,000
Balance to Complete Five-year Program after FY 2006	$3,000,000
Allocation for FY 2005	476,000
Change in FY 2006 from FY 2005	124,000
Average Annual Allocation for FY 2001-2005	585,000

JUSTIFICATION: The Corps of Engineers makes extensive use of streamflow records in the planning, design, construction, and operation of water resources projects. The Basic network of stream gaging stations operated by the Geological Survey under its normal functions without support from the Corps is inadequate to meet all the special needs of the Corps water resource development responsibilities. Accordingly, a cooperative program was established under which funds are transferred to the Survey to cover, partially, the cost of operating specific stations. In the optimum development and management of water resources, it is essential that continuous records of streamflow be maintained at specific sites over a long period of years to provide a reliable measure of water resources available for various uses. This budget item covers only the non-project portion of the cooperative program. To continue the operation of stations of special interest to the Corps, an estimated total of $16,400,000 will be required by the U.S. Geological Survey during FY 2006, exclusive of funds received from other cooperative sources. The operation and maintenance cost of these stations will be financed from three sources, as follows: (1) $560,000 appropriated directly to the U.S. Geological Survey for special Corps stations; (2) $600,000 from this budget item for stations not directly attributed to the Corps projects; and (3) $16400,000 from Corps funds budgeted elsewhere for authorized projects and studies. The basic program will remain at the same level as in previous years.

ACCOMPLISHMENTS: Records for the streamflow stations supported by transfer of funds are used primarily to operate Federal flood reduction projects. In the past ten years these projects have reduced flood damages by an average of $21.1 billion annually. Not only are these gages used by the Corps, but 100 percent of the data are used by the National Weather Service as the basis for its public flood forecasts. In addition, the data are published on the Internet by the Corps and/or in a regular series of reports by the U.S. Geological Survey and provide valuable information for many Federal and state agencies and the public.

COORDINATION: This program is fully coordinated with the U.S. Geological Survey. Costs for conducting the work are compiled by representatives of the Survey to identify a basis for the transfer of funds to that agency.

APPROPRIATION TITLE: General Investigations, FY 2006

2. Collection and Study of Basic Data

c. Other Programs

(2) Precipitation Studies (National Weather Service) (Continued)

ACCOMPLISHMENTS FY 2004:

A study of precipitation frequency for the semi-arid southwestern U.S. was completed and published as NOAA Atlas 14 Volume 1. This is a major accomplishment and sets the standard for similar studies of the rest of the U.S. The precipitation-frequency study of Ohio River basin and surrounding states was also completed and published as NOAA Atlas 14 Volume 2. NOAA Atlas 14 Volumes 1 and 2 cover eighteen states and the District of Columbia. They also represent a radical change in the method of delivery in accordance with the President's eGov initiative. NOAA Atlas 14 is now an electronic publication delivered exclusively via the Web. Electronic delivery allows for a vast increase in the amount of information available to users. It has met with wide acclaim from the user community. Funds available in 2004 were insufficient to perform Probable Maximum Precipitation work or to maintain that capability.

FISCAL YEARs 2005-06:

With the technology and systems for updating precipitation frequency demonstrated, we now stand ready to update precipitation frequency estimates for the rest of the U.S. and its dependencies. A full update of the remaining areas is estimated at $1.5M per year over 4 years. With limited funding of $178,000 available in FY05, NWS will complete the update of precipitation frequency estimates for Puerto Rico and the U.S. Virgin Islands and commence updating precipitation frequency estimates for the State of Hawaii. The Hawaii work had been put on hold due to limited funds. With expected funding of $225K, efforts in FY 2006 will be to complete work on updating precipitation frequency estimates for the State of Hawaii and to commence work on updating the estimates for Alaska.

The project estimates in 2004 dollars are:

1. Puerto Rico and the U.S. Virgin Islands, $62K
2. State of Hawaii, $179K
3. Alaska, $479K

Funds proposed in 2005-06 are insufficient to perform Probable Maximum Precipitation work or to maintain that capability.

COORDINATION:

This program is fully coordinated with the National Weather Service, Office of Hydrologic Development. For the precipitation-frequency study of the Ohio River basin region, the Corps assisted the NWS to obtain significant cost-sharing from the states in the region. The Corps will attempt to obtain cost sharing from the states and other federal agencies for the remaining states.

2. Collection and Study of Basic Data

c. Other Programs

(3) International Waters Studies

SCOPE:

The Boundary Waters Treaty of 1909, the Niagara River Treaty of 1950, the Columbia River Treaty of 1961, and other less formal agreements between the Governments of the United States and Canada are concerned with the regulation, control, and use of boundary waters. Under the Boundary Waters Treaty of 1909, the International Joint Commission (IJC) was established and empowered to establish local boards, which conduct investigations and assure adherence to orders of approval pertaining to use of boundary waters issued by the Commission. Corps of Engineers representatives serve on and chair the U.S. Sections of the following IJC Boards: Saint Croix River, Champlain-Richelieu, Lake Champlain, St. Lawrence River, Niagara, Lake Superior, Lake of the Woods, Rainy Lake, Souris-Red Rivers Engineering, Souris River Control, Kootenay Lake, and Osoyoos Lake. Under separate treaties, Corps representatives serve on and chair the U.S. Sections of the Columbia River Treaty Permanent Engineering Board, the Permanent Engineering Board Committee, the Columbia River Treaty Entities, the Columbia River Treaty Operating Committee, the International Niagara Committee, and the International Lake Memphremagog Board. These Boards and Committees hold joint meetings, review report drafts and correspondence, make field inspections, obtain, collect, and analyze hydrologic and hydraulic data, and report their findings to the establishing parties. The degree of study activity varies depending upon the requirements of the Commission or Treaty under which they were established. These efforts assure better control, use, and orderly development of the jointly controlled water resources, and are of importance in attempting to meet water demands resulting from an expanding economy along the United States-Canadian border. Studies are closely related to the Corps of Engineers' Civil Works program and are summarized in the Assistant Secretary of the Army for Civil Works' Annual Report.

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2005-2010) Program Cost		$1,500,000
Allocation Requested for FY 2006		300,000
Balance to Complete Five-Year Program after FY 2005		1,200,000
Allocation for FY 2005		238,000
Change in FY 2006 from FY 2005	62,000	
Average Annual Allocation for FY 2001-2005		366,600

JUSTIFICATION:

The amount requested for FY 2006 will fund Corps of Engineers participation in assisting the U.S. Government meet its obligations under provisions of boundary water treaties and other international agreements between the United States and Canada. CELRD provides support for implementation of the Niagara Treaty of 1950 that governs the split of Niagara River Waters between the U. S. and Canada, and between the uses of the waters.

2. Collection and Study of Basic Data

c. Other Programs

(3) International Waters Studies (continued)

Northwestern Division engages in activities associated with implementation of the Columbia River Treaty and the Kootenay Lake and Osoyoos Lake Boards of Control. CENWD, together with Bonneville Power Administration and British Columbia Hydro annually develop the Assured Operating Plan and the Detailed Operating Plan for the Columbia River Treaty storage projects. Funds also are used to support the work of the Columbia River Treaty Permanent Engineering Board, including publication of its annual report to the Governments. North Atlantic Division is engaged in support of the Saint Croix River Board of Control and the Gulf of Maine Council on the Marine Environment. Work in the Saint Croix R. Basin involves retrieval and analysis of water data to assure compliance with IJC rules and annual inspection of dams and fish passage facilities.

ACCOMPLISHMENTS:

The Corps Division and District commanders and their staffs met all of their many and diverse responsibilities in representing the United States on the previously listed IJC Boards of Control and Treaty entities, boards and committees. The IJC-sponsored special flood damage reduction study of the Red River Basin was closed without completing the full scope of the planned work because of lack of funds from the United States. CENWD continues to coordinate operations of Libby Dam under the 2001 Libby Coordination Agreement. CENWD participated as part of the U.S. Entity to prepare all Columbia River Treaty required Assured Operating Plans (AOP) and resultant Determinations of Downstream Power Benefits (DDPB) for the sixth succeeding year of operation. The U.S. Entity finalized the annual Detailed Operating Plan (DOP) that may produce results more advantageous to both countries for the current operating year.

FISCAL YEAR 2006:

The Corps will continue to carry out its multiple responsibilities to the various IJC Boards of Control and to the several Treaty entities, boards and committees. During FY 2006, additional flow data will be obtained and used to update the rating curve used to verify compliance with Niagara Treaty requirements. In addition, pursuant to the October 1999 Plan of Study for Lake Ontario regulation improvements, the IJC established the Lake Ontario-St. Lawrence River Study Board. Investigations are continuing as the fourth year of a 5-year effort. A Plan of Study for evaluating the Lake Superior regulation criteria outflows is being developed for approval by Governments. A basin-wide hydrologic and regulation model will be implemented. Special studies related to international impacts of evaluation of endangered species compliance related to Columbia River Treaty projects will be continued by CENWD. CENAD will continue normal work in support of the Saint Croix Board of Control and the Gulf of Maine Council on the Marine Environment. Discussions are ongoing with the IJC on expansion of the IJC's mission to include environmental objectives, as described in the report entitled "The IJC and the 21st Century". The Corps will be supporting the IJC as it executes the reference from the governments regarding investigating the feasibility of establishing a demonstration watershed board and its implementation of the reference on diversion, consumption and transfer of international waters.

2. Collection and Study of Basic Data

c. Other Programs

(4) Hydrologic Studies

SCOPE: The scope of activities under this item is determined annually based on the requests from USACE Commands and Laboratories to meet high-priority needs. These items are not covered under regular Civil Works GI and O&M funding programs. Major activities to be undertaken in the program generally include the collection of basic hydrologic data and the studies of these data for major storm events or certain special hydrologic processes. The information to be derived from this program will improve hydrologic engineering techniques for the planning, design, construction, and operation of water resources projects. The program consists of four sub-items: Storm Studies, General Hydrologic Studies, Sedimentation Studies, and Stream Flow and Rainfall Data.

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2006-20010) Program Cost	$ 2,000,000
Allocation Requested for FY 2006	300,000
Balance to Complete Five-Year Program after FY 2006	1,700,000
Allocation for FY 2005	238,000
Change in FY 2005 from FY 2004	22,000
Average Annual Allocation for FY 2001-2005	366,600

JUSTIFICATION:

1. Storm Studies: The Storm Studies Program is a continuing investigation of major storms for the purpose of accumulating comprehensive rainfall data. These data are used to refine the regional hydrometeorological information throughout the nation. The up-to-date hydrometeorological information is essential for design of new projects as well as for safety assessment of existing projects. We have substantial need for hydrologic data for initiation and completion of water resources studies. These data are required in the evaluation of flood-producing potentials of river basins, and constitute the major portion of the basic data used in probable maximum precipitation determinations. Funds in the amount of $100,000 will be required in FY 2006 to work on several storm studies. Storm data gathered in study of the storms occurring in FY 2004 in the Manoa Valley in Hawaii that feeds into the Ala Wai Canal over the Big Island of Hawaii will be input into numerical hydrological programs to develop models critical to flood damage reduction studies in Hawaii. These studies have been ongoing since 1995.

2. Collection and Study of Basic Data

c. Other Programs

(4) Hydrologic Studies (continued)

2. General Hydrologic Studies: Studies under this sub-item include needed improvement in the analysis of rainfall-runoff relationships, flood frequency, snowmelt studies, hydrograph development and routing at selected watersheds, model calibrations in urban areas, analyses of past floods, methods for the hydraulic analysis of non-gaged streams, and other studies of related hydrologic nature. Also included are planned upgrades to the internal Corps system of accounting for gages used largely both of control of water resources projects and also for studies of major hydrologic events. Studies of new techniques to improve the accuracy of hydrologic modeling require additional resources. New radar applications in rainfall-runoff forecast is an ongoing need. Funds in the amount of $130,000 in FY 2006 will be required to continue this sub-item at a level to insure proper and orderly progress.

3. Sedimentation Studies: The program is a continuing effort in which funds are used for conducting non-project sedimentation studies, and for the Corps share of an interagency sediment investigation program. The sedimentation studies include: promoting and supporting the standardization and development of equipment, criteria and methodology for the collection, analysis of suspended and bedload sediment characteristics of natural streams; and laboratory studies. The Hydraulics Laboratory, Waterways Experiment Station is sponsored by the Federal Interagency Sedimentation Committee (members from 18 agencies) and constitutes the major work effort under this sub-item. Funds in the amount of $50,000 in FY 2005 will be required to support the Federal Interagency Sedimentation Project (FSIP) located at the Waterways Experiment Station.

4. Streamflow and Rainfall Data: This is a continuing program in which funds are used for installation and operation of hydrometeorology gages of non-project nature that are needed by the Corps in addition to the stations in the cooperative programs conducted by the U.S. Geological Survey and the National Weather Service for the Corps. Additionally, gages are needed to observe historical high water marks for validation of hydrologic models. An amount of $50,000 in FY 2005 is required to continue the establishment and operation of these special-purpose gages, and to determine historical flooding in urban sites.

APPROPRIATION TITLE: General Investigations, FY 2006

2. Collection and Study of Basic Data

c. Other Programs

(4) Hydrologic Studies (continued)

ACCOMPLISHMENTS:

1. Storm Studies: This continuing program was organized in 1939 for the purpose of investigating rainfall from major storms of record throughout the entire United States. The selected storms are analyzed for frequency, associated runoff and precipitation data. These efforts are coordinated with the National Weather Services (NWS) Hydrometeorological Branch and the resulting data from these studies are used in design of water resources project throughout the country. During the period, Corps offices have gathered data on other major storms, reviewed the scope and interim results of ongoing studies by NWS on development of standard project and probable maximum storms at various basins throughout the United States and territories. Storm studies are being utilized in probable maximum precipitation studies in coordination with NWS for northwest, California and southwest United States.

2. General Hydrologic Studies: Examples of some of the more important studies accomplished under this program are: determination of rainfall-runoff relationship in urban areas; general hydraulic model calibration; snow cover surveys; and adaptation of hydrologic programs to CADD equipment. Work continued on the regional frequency studies for Puerto Rico and Hawaii river basins.

3. Sedimentation Studies: All of the funds allotted to this sub-item is to assist in financing the Corps share of the cooperative Interagency Sedimentation Project at the Hydraulics Laboratory, Waterways Experiment Station.

4. Streamflow and Rainfall Data: Stations funded under this sub-item are generally established and operated several years prior to anticipated authorization for project-type activities, in order to provide a background of observed data on which to base the planning and design of projects. Progress continues at these gage sites to collect hydrometeorological data in flood prone areas to document historical flood and calibration of hydrologic models.

2. Collection and Study of Basic Data

c. Other Programs

(4) Hydrologic Studies (Continued)

FISCAL YEAR 2005: The appropriation requested for FY 2005 is required to continue the Hydrologic Studies Program at the level required to meet high-priority needs.

ITEMS	FY 2005	FY2006
1. Storm Studies	$ 100,000	$ 100,000
2. General Hydrologic Studies	100,000	100,000
3. Sedimentation Studies	50,000	50,000
4. Streamflow and Rainfall Data	50,000	50,000
TOTAL	300,000	300,000

COORDINATION: The storm studies are prepared by USACE commands and are reviewed by the National Weather Services in the preparation of probable maximum precipitation estimates for the Corps. The Interagency Sedimentation Project is conducted cooperatively, and jointly funded, by eight Federal agencies. Information concerning streamflow and rainfall data collection by the Corps under this activity is made available to the U.S. Geological Survey and the National Weather Service.

2. Collection and Study of Basic Data

c. Other Programs

(5) Scientific and Technical Information Centers

SCOPE: This effort provides technical support to engineers and scientists utilizing CADD, GIS, and facility management technologies in the planning, design, construction, operation and maintenance of Corps projects. As there is no way of calculating the benefits which individual districts/projects receive from the CADD/GIS Center, the Corps does not propose to charge projects and programs for the Civil Works share of its maintenance costs.

In 1992, the former Army Corps of Engineers' Computer Aided Design and Drafting (CADD) Center, located in the Army Engineer Waterways Experiment Station (WES), was expanded to an Army, Navy, Air Force (Tri-Service) center, including the addition of Geographic Information Systems (GIS) technology, by a joint agreement between the Corps, the Naval Facilities Engineering Command, and the Air Force Civil Engineer. Its purpose was to reduce duplication of effort between the three services in the management of CADD/GIS technology for facilities and environmental engineering. Since that time, the Defense Logistics Agency (DLA), the General Services Administration (GSA), USGS, FBI, Smithsonian Institution, National Capital Planning Commission, U.S. Marine Corps, U.S. Coast Guard, National Institute of Building Sciences, NIMA, EPA, and NASA have joined this effort. As a result, this Center is a multi-agency vehicle to set standards, coordinate CADD/GIS systems uses, promote system integration, support centralized acquisition, and provide assistance for the installation, training, operation, and maintenance of CADD/GIS systems within the DoD facilities and environmental communities, including the Corps districts. All Corps districts that use CADD and GIS in mapping, planning, real estate, design, construction, operations, maintenance, and homeland defense and readiness benefit from the Center's efforts.

For FY 2005, the OMA funding portion was $2,090,000. The Civil Works portion was $319,000, the Naval Facilities Engineering Command portion was $250,000, the Air Force Civil Engineer Command portion was $100,000, and the U.S. Marine Corps portion was $100,000 for a total of $2,859,000. The $600,000 requested for FY 2006 for the Civil Works portion will support approximately 1,000 workstations and 2,000 users of CADD/GIS technologies for Civil Works Projects.

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2006-2010) Program Cost	$3,500,000
Allocation Requested for FY 2006	402,000
Balance to Complete Five-Year Program After FY 2006	2,900,000
Allocation for FY 2005	402,000
Change in FY 2006 from FY 2005	0
Average Annual Allocation for FY 2001-2005	$455,000

APPROPRIATION TITLE: General Investigations, FY 2006

2. Collection and Study of Basic Data

c. Other Programs

(5) Scientific and Technical Information Centers (Continued)

JUSTIFICATION: All Corps districts use CADD and GIS computer systems for Civil Works engineering, design, mapping, planning, and facility management. All engineering drafting tables have been replaced with CADD platforms or computer mapping systems and most Crops environmental and natural resource analysis are being performed on GIS platforms. The geospatial data standard efforts of the Center were coordinated with the American National Institute of Standards to develop a National GIS Standard which was approved in November 2001 and includes civil works and homeland defense features. Standards and productivity enhancement tools developed by the Center are used for both in-house and contractor produced drawings, maps and analyses, which assure that all Corps offices have the ability to exchange their work among themselves and with others, including the private sector. The Center is actively coordinating its CADD standards 3.0. with the National Institute of Building Sciences and has created a National CADD Standard, thus reducing the redundancy with the private sector and reducing cost for both government and the private sector. The Center ensures that the Corps obtains the maximum return on its investment in CADD and GIS by coordinating development efforts and distributing end products to Corps offices. The CADD and GIS systems at field offices can achieve maximum productivity when they take advantage of the economies of scale offered by sharing the development and use of common data standards, procedures, and applications. This sharing is accelerated through a concerted effort by the Center, working with various field working groups, to draw from field expertise and dissemination of this knowledge in the form of lessons learned and standards to benefit all Corps users. Comprehensive data standards supported by the Center permit government and industry users to produce equivalent designs, maps and analysis on a variety of computer systems using commercial off-the-shelf CADD and GIS software.

ACCOMPLISHMENTS IN FY 2005:

1. Release 3.0 of the A/E/C CADD Standard (both document and software tools) was released on CD-ROM and via the web. This released was distributed by several software vendors as part of their application (e.g. ProSoft). Software updates to implementation applications were incorporated in the new release. The A/E/C CADD Standards content was revised to make it compatible with Version 3.0 of the National CAD Standard. Requirements for Building Information Model Standards were developed and incorporated in Release 3.0. Ten on-site implementation training classes were taught across DoD to support user implementations. A web based training course was also developed and made available free of charge to DoD users.

2. The GIS Spatial Data Standard for Facilities, Infrastructure, and Environment (SDSFIE) Release 2.5 was completed. The SDSFIE included continued development of the GIS data standards for Watersheds, Levees, General Civil Works, Master Planning, Critical Infrastructure, Homeland Security, and Real Estate activities. These activities provide a common data format for the development of GIS on civil works projects, thereby cutting costs and allowing sharing of data sets among government agencies and the private sector. Homeland Security data sets and symbology sets were enhanced in support of USGS and NGA to analyze data more quickly and facilitate data sharing and upward reporting. Electronic tools were developed and enhanced to facilitate the construction of GIS datasets for various GIS vendor products (e.g. Intergraph's GeoMedia and ESRI's ArcGIS). Eleven SDSFIE implementation training courses were taught across DoD to support users in the use of GIS data standards. Standards Workgroup Assistance Teams were sent to selected sites to assist the users with implementations.

2. Collection and Study of Basic Data

c. Other Programs

(5) Scientific and Technical Information Centers (Continued)

Information Analysis Centers	FY 2005
Coastal Engineering	$15,000
Cold Regions Engineering	15,000
Concrete Technology	18,000
Hydraulic Engineering	15,000
Soil Mechanics	15,000
	$ 78,000

COORDINATION:

The Information Analysis Centers and their host Laboratories distribute reports, technical notes, computer programs, GIS data, abstracts, information bulletins, and other scientific and technical information to the Defense Technical Information Center (DTIC), Corps libraries, depository libraries, and identified user communities to ensure wide circulation and availability. WWW homepages are maintained on the Internet for public accessibility. Reports are also available for searching through the Corps Library Program's computer system LS/2000. DTIC publicizes reports through its own DOD database and forwards the reports to the National Technical Information Service (NTIS), Department of Commerce. NTIS places reports into a compendia of Selected Water Resources Abstracts and an annual cumulative edition, with conveniently indexed and cross referenced identification of what is being or has been done in water resources research and related scientific and engineering fields by whom, where, and when.

2. Collection and Study of Basic Data

c. Other Programs

(6) Coastal Field Data Collection

SCOPE:

The nationwide program is designed to systematically measure, analyze and assemble information required to accomplish the Corps mission in coastal navigation, storm damage reduction, and evaluation of harbor entrance impacts on adjacent shores. The data directly support project comprehensive regional and local planning, research, design, construction, operation, and maintenance. Cost-effective mission accomplishment requires long-term and systems/regional data that encompasses winds, waves, currents, water levels, and bottom configuration, sediment characteristics, and geomorphologic data. In particular, wave data are the key design parameter for coastal projects. For example, a 20% error in wave height leads to over a 70% difference in stone size for navigation structures. If the error in wave height leads to over specifying stone size, the construction costs are much higher than necessary. If stone size is too small, structures fail or have unnecessary life-cycle repair costs. With 800 navigation projects to maintain and repair (25% are more than 50-years old), cost attributable to having no data or poor data would be significant. These data are either unavailable in existing archives, are of uncertain or poor quality, or are too sparsely distributed temporally and/or spatially to have statistical value. The required data are regional in nature and not properly chargeable to authorized projects. Sufficient time is not available prior to or during project preauthorization planning studies to accumulate the years of base-line data necessary for adequate assessment of technical, economic, and environmental feasibility. Acquisition of the information will be accomplished through the concurrent accumulation of complementary items, each of which are unique and contribute certain critically needed data. The program is organized into seven sub-items, all related to field data: (1) Wave Information Studies; (2) Field Wave Gauging; (3) Field Research Facility Measurements; (4) Participation in the National Ocean Partnership (NOPP) and its coastal observing effort, (5) Southern California Beach Measurement Program, (6) Monitoring for Typhoon and Hurricane impacts in the Pacific and Caribbean Islands, and (7) Evaluation of Shore Protection Projects  eighth activity addressing the modeling of waves and storm surges in island environments was added by Congress in FY05 as a complement to item six.

JUSTIFICATION:

1. Wave Information Studies. Numerical simulation techniques are used to estimate directional wave climatologies from weather information for all of the nation's ocean and Great Lakes coastline. Most historic wave gauge data are non-directional and consequently of little use in the design of coastal projects. This activity will provide 20 years of spatially and temporally consistent directional wave statistics. This information is paramount to the functional/structural design and economic evaluation of coastal navigation projects and of fundamental use to coastal Regional Sediment Management (RSM) studies. Additionally, detailed wind information is produced. These data are made available to Corps of Engineers Districts and the public via interactive web access. Data users are also provided with statistical representations desired of waves. The models and technology developed by this program are also applied in post-storm assessments such as conducted following the hurricanes of 2004. Once the 20-year database is complete, it will be updated annually. Developing and evaluating the hindcast wave database requires funding of $350k in FY06.

2. Collection and Study of Basic Data

c. Other Programs

(6) Coastal Field Data Collection

2. Field Wave Gauging. This is the only national program providing high-quality observed wave data nationwide. It is a component of the Corps's contribution to the *Integrated Ocean Observing System* (IOOS) as outlined by the President's Commission on Ocean Policy in 2004. Wave observations are required to predict harbor shoaling, harbor oscillation, jetty stabilization and are imperative for operational guidance of dredging, navigation, maintenance, emergency operations, etc. High quality, directional wave observations are required for proper implementation of Regional Sediment Management strategies and the design of beach protection projects. Gauging efforts are coordinated with the National Data Buoy Center (NDBC) of the National Oceanic and Atmospheric Administration (NOAA), and with the Coastal Data Information Program operated by the Scripps Institution of Oceanography through the State of California (http://cdip.ucsd.edu). Upon acquisition, the data are analyzed and made available in real-time to CE engineers, planners, and managers with the public via the Internet. Nearshore gauging is conducted cooperatively through agreements with other states and agencies and regional observing systems. Presently this program supports directional sensors in 15 NDBC buoys and partially or fully supports 22 nearshore gauges Funding of $200k in FY06 will maintain only 25% of this critical observing program. This funding is insufficient to: support the agreements currently in place, maintain the equipment, or expand the nearshore gauging to other areas as required by the IOOS. Program expansion is urgently needed - for example, there were no deepwater directional wave measurements along the east coast of Florida during the 2004 hurricanes which could have been used to alert CE and other emergency operation officials during the events, and for post-storm assessments. While the deepwater coverage is better for the west coast of Florida, there were no shallow water directional wave measurements, only deepwater ones supported by this program. The mid and north Atlantic coasts are also similarly underserved.

3. Field Research Facility Measurements. Critical to measuring, analyzing and providing useful coastal data products for the CE Districts is the collection of intensive, long-term, high-resolution data for improving project design and reducing costs. The Field Research Facility (FRF) in Duck, North Carolina (http://frf.usace.army.mil/), is a unique real-world coastal experimental facility that incorporates high-resolution instruments with comprehensive suites of environmental sensors to provide wave, current, meteorological, bathymetric, and topographic data. The facility is used to evaluate wave measurement techniques and equipment, test experimental oceanographic instrumentation and sensors, collect high-resolution continual data throughout major storms, conduct large interagency field experiments, such as SandyDuck and Duck94, and collect spatially and temporally intensive long-term base measurements required to understand complex coastal processes. These data are made available via an interactive website to engineers and scientists in the Corps, DOD Laboratories, other agencies, universities, and the private sector for researching coastal processes and for developing and verifying numerical models and coastal engineering tools that predict wave environments and sediment movement affecting coastal projects, navigation safety, dredging quantities and project impacts. They also are crucial for evaluating the characteristic of data products produced by other sub-items and improving their quality and completeness. As a coastal observatory, the FRF is part of CE's contribution to the nation's *Integrated Ocean Observing System* (IOOS). Funds in the amount of $900k are required for the base measurement program at the Field Research Facility and to participate in the IOOS.

4. Participation in the National Ocean Observing Program. This task objective supports CE's participation in the National Ocean Partnership Program (NOPP, http://www.nopp.org) and Ocean.US the interagency office for Ocean observation (http://ocean.us). This interagency program involves 15 other Federal Agencies (Navy, NASA, NSF, NOAA, USGS, DoE, EPA, DARPA, DoS, USCG, ONR, OSTP, Homeland Security, MMS, OMB) with the objective of advancing ocean research through partnerships. Ocean.US is organizing and implementing the national Integrated Ocean Observing System (IOOS). This program will lead to a wide range of real-time coastal data being made available to CE users and partners for use in planning, operations, and emergency response. Funding

required to participate in NOPP and to support the Ocean.US both financially and in kind is $75k for FY05.
2. Collection and Study of Basic Data

c. Other Programs

(6) Coastal Field Data Collection

5. Southern California Beach Processes Study (SCPBS). Planning for Regional Sediment Management (RSM) activities (shoreline protection, beach maintenance, coastal inlet dredging and related engineering activities) requires an understanding of the coastal processes and sediment budget over regions extending tens of miles up and down coast. In this task coastal processes will be monitored along a 55-mile-long littoral cell extending from Dana Point to Point La Jolla in Southern California (http://cdip.ucsd.edu/SCBPS/homepage.shtml). This unique populous region is characterized by narrow continental shelves, swell-dominated wave climates and cliff-backed beaches. Monitoring will involve airborne LIDAR and video techniques for determining seasonal beach and cliff variation in this region combined with wave measurements and modeling to quantify the impact of coastal storms on beach and cliff changes over multiple years. Because of the comprehensive nature of the monitoring, these data will be used to develop an analysis of the potential risk associated with use of a less-comprehensive monitoring program for application to other regions of the country. This effort will contribute new findings and insight to ongoing RSM research activities. FY06 will be the fifth year of this program and funds in the amount of $150k will allow analysis of collected data to continue, but will not support continued LIDAR data collection nor planned regional model development.

6. Pacific Islands Land Ocean Typhoon (PILOT) Experiment. This task seeks to collect cross-island wind, wave, wave and water level data documenting hurricane and typhoon passage in the Pacific and Caribbean islands. Tropical cyclones affect islands differently than the continental United States. Consequently, existing forecast models, intensity scales, and design tools for cyclones are inappropriate or unproven for use in the islands. The objective of this effort is to provide the quantity and quality of timely data required to more accurately document characteristics and effects of episodic cyclonic activity in the islands, which specifically address needs developed by the Corps' Island Task Force. This is the fourth year of a 5-year study. Measurements are being made on the Island of Guam because of its likelihood of a Typhoon passage with supporting and similar measurements being made in Hawaii. This program takes advantage of the expertise available in tasks 1-4 above. Funding of $150k for FY06 will continue only the basic wind and wave measurements at one Guam location. Other activities in Guam and Hawaii, critical to the success of this major field measurement effort, will not be funded.

7. Performance of Shore Protection Projects. The objective of this task is to improve future shore protection projects through evaluating the performance of existing projects, and through augmenting the field monitoring programs of selected new projects. Existing projects will be examined for their physical, economic, and benefit performance. In particular, the success in the use of modern modeling tools and monitoring techniques for developing shore protection project designs will be examined. Evaluation tools and design improvement recommendations will be developed. Project summaries including surveys, specs, and performance data will be collected and made available via the Internet. Standardized web templates for migrating project information to the web will be developed. This effort will maximize the use of existing project performance data and directly responds to district requirements for tools and techniques to analyze performance data. This program will also benefit from the Hurricane impact assessments done following Hurricane Isabel and the Florida hurricanes of 2004. To develop an initial plan for the project, funding of $50k in FY06 is required.

2. Collection and Study of Basic Data

c. Other Programs

(6) Coastal Field Data Collection

SUMMARIZED FINANCIAL DATA:

PROGRAM ITEM	FY2006
1. Wave Information Study	350,000
2. Field Wave Gauging	200,000
3. Field Research Facility	900,000
4. Participation in the National Ocean Observing System	75,000
5. Southern California Beach Profile Study	150,000
6. Tropical Cyclone Monitoring in the Islands	150,000
7. Performance of Shore Protection Projects	50,000
Total	1,875,000

2. Collection and Study of Basic Data

c. Other Programs (continued)

(7) Transportation Systems

SCOPE: The Transportation Systems Program supports USACE Corps Districts and Headquarters personnel in accomplishing their navigation project planning and evaluation responsibilities through the provision of integral information components. The process of planning improvements for waterway system and harbor navigation projects necessitates the consideration of the needs, opportunities, benefits, and costs associated with placement of project improvements within the context of the project-specific area as well as within the context of the overall national transportation system. The Transportation Systems Program is managed by CECW-P and technically supported by CEIWR and is a continuous, on-going effort to ensure the development of viable and practical analytical techniques, sources of information, tools and methods; the development of deep draft and shallow draft vessel operating and replacement cost data which can be applied by District offices; the provision of timely updates of the world deep draft vessel fleet, commodity, and cargo flow forecasts; the publication of reports documenting the results of research associated with the Transportation System Analysis Program and relevant areas of the NETS Program; and the provision of technical services and support to District offices and Headquarters personnel. The goals of the Transportation System Program are as follows: (1) to improve the technical quality and accuracy of navigation planning studies as well as provide for consistency in analytical procedures and technical basis for review across the wide array of planning conditions encountered by District personnel; (2) to improve the strategic planning of navigation system(s) improvements; and (3) to reduce the costs of analysis, planning, and operation of the waterborne navigation system. These goals are accomplished by providing District and headquarters analysts with useful and consistent information and analytical tools and procedures which result in end products which reflect responsible and worthwhile investment of Federal civil works funds.

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2006-2010) Program Cost	$ 2,420,000
Allocation Requested for FY 2006	375,000
Balance to Complete Five-Year Program after FY 2006	2,045,000
Allocation for FY 2005	375,000
Change in FY 2006 from FY 2005	0
Average Annual Allocation for FY2001-FY2005	$487,000

2. Collection and Study of Basic Data

c. Other Programs

(7) Transportation Systems (continued)

JUSTIFICATION: The $375,000 requested in FY 2006 for Transportation Systems would be used to update models and analysis used for the planning and evaluation of ports, harbors and inland waterways, and the modernization of planning methods and associated computer models to support District navigation studies nationwide. Funds would be used to continue to develop, improve, and provide inland and ocean vessel operating costs used to estimate transportation cost reduction benefits for Corps navigation studies; to continue to develop and provide commodity and fleet forecasts of waterborne traffic for deep and shallow draft navigation projects from industry forecasting experts, and to update deep draft vessel characteristics for use by Corps field planners; to provide rail, barge and truck models for use in estimating origin-destination transportation cost savings by Corps Districts; to provide consulting technical support services to Corps District offices; to complete review of the tidal-delay model that would standardize related procedures, thus minimizing the effort and cost for each study needing to evaluate this component.

ACCOMPLISHMENTS: FY 2005 accomplishments are: Updated and published FY 04 shallow and deep-draft vessel operating costs; updated fuel costs and posted to Headquarters Homepage; completed an update of vessel characteristics for ocean-going barge costs; completed draft of deep-draft vessel operating cost applications manual; secured and distributed information from Global Insight, Sparks Companies, and REEBIE Transportation models; updated the barge, rail and truck transportation models; and completed the desktop tidal delay model.

ACTIVITIES FOR FY2006: FY2006 funds will be used to update and publish deep draft vessel operating costs; update fuel costs; obtain world trade and commodity flow forecasts; update and distribute subscription materials from Global Insight, Sparks\Informa Companies, and the REEBIE Transportation models.

2. Collection and Study of Basic Data

c. Other Programs

(8) Environmental Data Studies

JUSTIFICATION: The Environmental Data Studies Program request is $94,000. Funds will be used to continue and to improve environmental program management performance. Funds will be used to continue development of an Internet accessible Environmental Database System, to support collection and sharing of environmental information for national and regional inventories and assessments and train field personnel in its access and use. We will coordinate our performance measurement and data cataloguing efforts with requirements for performance indicators for the Environmental Business Line per the CW Strategic Plan and budget process.

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ACCOMPLISHMENTS FOR FISCAL YEAR 2004:

Improved initial prototype of the Environmental Database System (EDS). 105 CAP (Section 1103, 1135, 204, etc.) reports have been reviewed and entered in the database. EDS-Encyclopedia, accessible through the same address is a research tool for those engaged in environmental studies.

OBJECTIVES FOR FISCAL YEAR 2005:

1. Review, and as necessary, re-scope the functions, application and structure of the database. Continue quality control for data already entered.
2. Query field practitioners as to how the database can serve their needs.
3. Design a strategy to track mitigation for environmental impacts from Corps projects.
4. Establish stronger linkages between database content and needs of the performance-based budgeting process.
5. Continue to maintain, add and rate websites in Encyclopedia.

2. Collection and Study of Basic Data

c. Other Programs

(9) Remote Sensing Systems Support

This item supports the overall technology transfer requirement of the Corps Civil Works Program for Remote Sensing systems, which is the responsibility of the Cold Regions Research and Engineering Laboratory (CRREL) through its Remote Sensing/Geographic Information Systems (GIS) Center of Expertise.

SUMMARIZED FINANCIAL DATA	
Estimated Five-Year (FY2006-2010) Program Cost	$1,500,000
Appropriation Requested for FY 2006	$300,000
Balance to Complete Five-Year Program after FY2006	$1,200,000
Allocation for FY 2005	$300,000
Change in FY 2006 from FY 2005	$0

JUSTIFICATION:

The Remote Sensing/GIS Center is the Corps' Center of Expertise for Civil Works Remote Sensing and GIS technologies, providing mission essential support as part of the new USACE 2012 organization. Through centralized management of this function, the Center provides cost-effective support through technology transfer and applications development for Corps mission responsibilities in all business practice areas: navigation, flood and coastal storm damage reduction, hydropower, regulatory, environment, emergency management, recreation, water supply, and work for others. Continuing interaction with other researchers and practitioners throughout the Corps, government, the private sector, and academia assures that state-of-the-art and state-of-the-practice knowledge of evolving trends that are important are available for the Corps and that duplication of effort is avoided.

Declines in manpower require working smarter, better, and faster. Contributing to this effort, the Center develops approaches for the integration of data from the disparate sources necessary for system wide land and water resources management including: regional sediment management, regional water management, and ecosystem processes and assessment; basin studies; water control; support to emergency management; and compliance with the attendant environmental regulations and related policies. The Center maintains cognizance of state-of-the-art sensors, data collection, analysis, and storage systems, commercial software, and bridging software that integrates these and operational technologies into the Corps divisions, districts, and other agencies' activities. Technology is transferred through telephone and short, no cost assistance to the field. The existence of the Center ensures that the necessary support can be rapidly directed toward solving operational problems that require specialized expertise. The PROSPECT training program in remote sensing and GIS, managed by Center staff, provides another avenue for the transfer of knowledge to those who are, or soon will be, using these technologies. Training also is conducted in the field through workshops and conferences. White papers, pilot projects, Corps and other publications, including Engineering Letters, Circulars, and Manuals, and the Internet, also are used to transfer procedures and lessons learned to end users.

2. Collection and Study of Basic Data

c. Other Programs

(9) Remote Sensing Systems Support (continued)

ACCOMPLISHMENTS IN FY 2005:

1. 1. As the Center of Expertise, served as key resource and technology point of contact for the Corps of Engineers for Civil Works remote sensing and GIS.
2. 2. Provided guidance and technical support to the Corps' Geospatial Community of Practice (COP) and provided leadership to the remote sensing, hydrology and hydraulics, and emergency sub-COPs.
3. 3. Continued technology transfer through training courses, briefings, technical papers, technical demonstrations, pilot programs, and conferences.
4. 4. Supported one-stop service requests from Corps districts and divisions.
5. 5. Initiated development of new PROSPECT course in Image Processing.
6. 6. Assisted with review of GIS performance during disasters.
7. 7. Distributed and served Corps-wide eGIS data.
8. 8. Provided leadership and technical support to strategic and enterprise USACE geospatial initiatives: Informatics Program Management Team; Common Delivery Format team member; Science and Engineering Technology Tools Program Management Team; Readiness XXI Technology Transfer Program Management Team; Geospatial Operations and Maintenance Business Interlink (gORM) team member; and Hydrology and Hydraulics modeling software development and support team member.
9. 9. Sponsored and participated in program development of national and international remote sensing and GIS conferences.
10. 10. Major update of the PROSPECT Introductory GIS course.
11. 11. Developed and enhanced national geospatial data viewers for Corps' programs.
12. 12. Initiated a new Corps' Geographic Information Systems Manual.
13. 13. Participated in the development of the Systems Wide Water Research and Development Program and Missouri River Program.
14. 14. Member of the CADD/GIS Technology Center's advisory support team.
15. 15. Provided technical guidance and content concerning remote sensing and GIS to the Technical Excellence Network.
16. 16. Provided civil funds to the CCIO as needed to support field imagery requirements.
17. 17. Provided technical support to Corps District offices for the development of implementation plans for Geospatial data management including development of enterprise geospatial data approaches.

2. Collection and Study of Basic Data

c. Other Programs

(9) Remote Sensing Systems Support (continued)

PROJECTED ACCOMPLISHMENTS IN FY 2006:

1. As the Center of Expertise, served as key resource and technology point of contact for the Corps of Engineers for Civil Works remote sensing and GIS.
2. Provided guidance and technical support to the Corps' Geospatial Community of Practice (COP) and provided leadership to the remote sensing, hydrology and hydraulics, and emergency sub-COPs.
3. Continued technology transfer through training courses, briefings, technical papers, technical demonstrations, pilot programs, conferences, the internet and knowledge management portals.
4. Supported one-stop service requests from Corps districts and divisions.
5. Distributed and served Corps-wide eGIS data.
6. Provided leadership and technical support to strategic and enterprise USACE geospatial initiatives: System Wide Water Resources Program, Informatics Program Management Team; Common Delivery Format team member; Science and Engineering Technology Tools Program Management Team; Readiness XXI Technology Transfer Program Management Team; Geospatial Operations and Maintenance Business Interlink (gORM) team member; and Hydrology and Hydraulics modeling software development and support team member.
7. Sponsored and participated in program development of national and international remote sensing and GIS conferences.
8. Major update of PROSPECT Remote Sensing course.
9. Developed and enhanced national geospatial data viewers for Corps' programs.
10. Developed and distributed national geospatial data coverages for emergency management and other Corps business practice applications.
11. Member of the CADD/GIS Technology Center's advisory support team.
12. Supported the Technical Excellence Network with GIS and remote sensing content development.
13. Provided civil funds to the CCIO as needed to support field imagery requirements.
14. Provided technical support to Corps District offices for the development of implementation plans for Geospatial data management including development of enterprise geospatial data approaches.

2. Collection and Study of Basic Data

c. Other Programs

(10) Automated Information Systems Support - Tri-Service CADD/GIS Technology Center

SCOPE: This effort provides technical support to engineers and scientists utilizing CADD, GIS, and facility management technologies in the planning, design, construction, operation and maintenance of Corps projects. As there is no way of calculating the benefits which individual districts/projects receive from the CADD/GIS Center, the Corps does not propose to charge projects and programs for the Civil Works share of its maintenance costs.

In 1992, the former Army Corps of Engineers' Computer Aided Design and Drafting (CADD) Center, located in the Army Engineer Waterways Experiment Station (WES), was expanded to an Army, Navy, Air Force (Tri-Service) center, including the addition of Geographic Information Systems (GIS) technology, by a joint agreement between the Corps, the Naval Facilities Engineering Command, and the Air Force Civil Engineer. Its purpose was to reduce duplication of effort between the three services in the management of CADD/GIS technology for facilities and environmental engineering. Since that time, the Defense Logistics Agency (DLA), the General Services Administration (GSA), USGS, FBI, Smithsonian Institution, National Capital Planning Commission, U.S. Marine Corps, U.S. Coast Guard, National Institute of Building Sciences, NIMA, EPA, and NASA have joined this effort. As a result, this Center is a multi-agency vehicle to set standards, coordinate CADD/GIS systems uses, promote system integration, support centralized acquisition, and provide assistance for the installation, training, operation, and maintenance of CADD/GIS systems within the DoD facilities and environmental communities, including the Corps districts. All Corps districts that use CADD and GIS in mapping, planning, real estate, design, construction, operations, maintenance, and homeland defense and readiness benefit from the Center's efforts.

For FY 2005, the OMA funding portion was $2,090,000. The Civil Works portion was $319,000, the Naval Facilities Engineering Command portion was $250,000, the Air Force Civil Engineer Command portion was $100,000, and the U.S. Marine Corps portion was $100,000 for a total of $2,859,000. The $600,000 requested for FY 2006 for the Civil Works portion will support approximately 1,000 workstations and 2,000 users of CADD/GIS technologies for Civil Works Projects.

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2006-2010) Program Cost	$3,500,000
Allocation Requested for FY 2006	600,000
Balance to Complete Five-Year Program after FY 2006	$2,900,000
Allocation for FY 2005	319,000
Change in FY 2006 from FY 2005	281,000
Average Annual Allocation for FY 2001-2005	$455,000

JUSTIFICATION: All Corps districts use CADD and GIS computer systems for Civil Works engineering, design, mapping, planning, and facility management. All engineering drafting tables have been replaced with CADD platforms or computer mapping systems and most Crops environmental and natural resource analysis are being performed on GIS platforms. The geospatial data standard efforts of the Center were coordinated with the American National Institute of Standards to develop a National GIS Standard which was approved in November 2001 and includes civil works and homeland defense features. Standards and productivity

enhancement tools developed by the Center are used for both in-house and contractor produced drawings, maps and analyses, which assure that all Corps offices

2. Collection and Study of Basic Data

d. Other Programs

(10) Automated Information Systems Support - Tri-Service CADD/GIS Technology Center (continued)

have the ability to exchange their work among themselves and with others, including the private sector. The Center is actively coordinating its CADD standards 3.0. with the National Institute of Building Sciences and has created a National CADD Standard, thus reducing the redundancy with the private sector and reducing cost for both government and the private sector. The Center ensures that the Corps obtains the maximum return on its investment in CADD and GIS by coordinating development efforts and distributing end products to Corps offices. The CADD and GIS systems at field offices can achieve maximum productivity when they take advantage of the economies of scale offered by sharing the development and use of common data standards, procedures, and applications. This sharing is accelerated through a concerted effort by the Center, working with various field working groups, to draw from field expertise and dissemination of this knowledge in the form of lessons learned and standards to benefit all Corps users. Comprehensive data standards supported by the Center permit government and industry users to produce equivalent designs, maps and analysis on a variety of computer systems using commercial off-the-shelf CADD and GIS software.

ACCOMPLISHMENTS IN FY 2005:

1. Release 3.0 of the A/E/C CADD Standard (both document and software tools) was released on CD-ROM and via the web. This released was distributed by several software vendors as part of their application (e.g. ProSoft). Software updates to implementation applications were incorporated in the new release. The A/E/C CADD Standards content was revised to make it compatible with Version 3.0 of the National CAD Standard. Requirements for Building Information Model Standards were developed and incorporated in Release 3.0. Ten on-site implementation training classes were taught across DoD to support user implementations. A web based training course was also developed and made available free of charge to DoD users.

2. The GIS Spatial Data Standard for Facilities, Infrastructure, and Environment (SDSFIE) Release 2.5 was completed. The SDSFIE included continued development of the GIS data standards for Watersheds, Levees, General Civil Works, Master Planning, Critical Infrastructure, Homeland Security, and Real Estate activities. These activities provide a common data format for the development of GIS on civil works projects, thereby cutting costs and allowing sharing of data sets among government agencies and the private sector. Homeland Security data sets and symbology sets were enhanced in support of USGS and NGA to analyze data more quickly and facilitate data sharing and upward reporting. Electronic tools were developed and enhanced to facilitate the construction of GIS datasets for various GIS vendor products (e.g. Intergraph's GeoMedia and ESRI's ArcGIS). Eleven SDSFIE implementation training courses were taught across DoD to support users in the use of GIS data standards. Standards Workgroup Assistance Teams were sent to selected sites to assist the users with implementations.

2. Collections and Study of Basic Data

c. Other Programs

(11) Flood Damage Data Program

SCOPE: The Flood Damage Data Program is required to facilitate the collection and maintenance of basic flood damage data to support Corps field offices in accomplishment of flood damage reduction studies. Planning and evaluation of flood damage reduction projects requires knowledge of actual damages caused to various types of properties. The relationships between flood depth, flood duration and velocity, value and type of property, and the amount of damage are essential to making accurate and supportable estimates of the value of projects. The distributions of damages resulting from the various factors involved are needed for the risk analysis framework adopted for water resource studies. Damage data are obtained in rare instances when a damaging event occurs and funded studies are underway. However, in most instances when flooding occurs there are no current studies in the area or other funding mechanism to collect the requisite data to be used in future analysis or to report and accurately record the damages incurred and account for the effect of the factors that caused the damages. Previously no centralized flood damage data source existed which retrieved basic data for research efforts and for specific project studies. The major purpose of the program is to improve the technical quality and accuracy of flood damage data, to improve the understanding of the interrelationships of the characteristics of flooding on property damage, to improve the formulation of flood damage reduction projects, and reduce the costs of feasibility studies. Coastal damage data collection will be needed to adapt to new coastal protection policies and to respond to concerns from the Office of the Assistant Secretary of the Army (Civil Works) in the review of recent coastal protection projects. The activities of the program are to: (1) conduct actual flood damage surveys following flood events for riverine and coastal events; (2) develop, maintain, and improve the economic database for flood damage reduction projects; (3) calculate flood depth-damage functions for riverine and coastal flooding based on actual damage data; and, (4) develop and maintain a floodplain inventory application that would be used to apply flood damage estimation models to feasibility, reconnaissance, and continuing authority studies.

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2006-2010) Program Costs	$3,500,000
Allocation Requested for FY 2006	248,000
Balance to Complete Five-Year Program after FY 20056	3,252,000
Allocation for FY 2005	$248,000
Change in FY 2006 from FY 2005	0

2. Collections and Study of Basic Data

c. Other Programs

(11) Flood Damage Data Program (continued)

JUSTIFICATION: The $248,000 requested in FY 2006 for Flood Damage Data would be used to develop and maintain data collection survey forms and data collection techniques, to collect post-flood damage data, to employ the flood damage database to estimate a National model where regional or local flood characteristics can be specified to estimate flood damage relationships, to update and maintain a computer application for applying flood damage models to floodplain inventory data, and to develop generic business flood damage relationships. Funds would be used to monitor data collection, to collect damage data for riverine and coastal flood events, and data analysis and the development of generic damage relationships, including associated flooding costs which might be appropriate to National Economic Development procedures, and to test the effectiveness of flood warning and flood proofing procedures. Funds would also be used to enhance a website to share results of the analysis.

ACCOMPLISHMENTS:

1. Flood damage surveys, using material from OMB-approved questionnaires have been developed, reviewed, and pre-tested.
2. Data collection techniques and data tabulation procedures have been developed. Data collection procedures have been documented in a primer for Corps field personnel and contractors.
3. Over 2,200 residential surveys and approximately 1,200 nonresidential surveys have been completed for properties in 19 states. A database has been created from these surveys and analysis is continuing. Several reports have been issued documenting the case studies and damage function computation.
4. Generic residential content and structure damage functions have been released for single-family homes.
5. Generic business structure damage functions and vehicle damage functions have been computed and documented.
6. A research design report has been completed for further development of risk-based damage function calculation, using additional data from building industry component costs models and data collected as part of this program.
7. A residential depth-damage function application has been released for Corps-wide use. The application will be used to determine the depth-damage relationships based on building characteristics and county-specific building costs. The model has incorporated structure and content estimation and structure and content damage for a comprehensive array of structure types, foundation types, exterior building material, quality, and period of construction. The model has been released to Corps districts for integration with the HEC-Flood Damage Analysis Package for evaluation of flood damage reduction benefits. Training for the use of the model has been conducted for Corps districts and MSC's at regional workshops.
8. A review of potential methodologies and data sources for estimating flood damage to roads has been completed. A preliminary model for estimating flood damage to roads has been released and field-tested.
9. Approximately 300 records have been collected on homes that have suffered coastal flood damage.
10. A research design report has been completed for further development of risk-based damage function modeling for coastal storm damage.

APPROPRIATION TITLE: General Investigations, FY 2006

3. Research and Development

The Corps must pursue an aggressive R&D effort to take advantage of rapidly developing technologies and techniques that will promote significant monetary savings and greater reliability, safety, enhanced efficiency, and environmental sustainability in planning, design, construction, operations and maintenance of civil works activities.

The Civil Works R&D program is formulated to directly support the established Business Lines of the Civil Works Program including: flood and coastal storm damage reduction, inland and coastal navigation, environment (including natural resources, compliance, mitigation, restoration, and stewardship), water supply, hydropower, recreation, emergency management, and regulatory. The Civil Works R&D needs and requirements are identified based on the current Civil Works Program Strategic Plan, Corps divisions and district input, and the existing WRDA authorities. The R&D effort is a problem-solving process by which the Corps systematically examines new ideas, approaches, and techniques and develops field-ready products. The request for $22,00,000 of General Investigations funds for the FY 2006 program would accomplish the very highest priority R&D needs.

Results of the Corps' GI R&D effort are directly incorporated into practice within the Civil Works Program through revisions or additions to Engineer Regulations, Engineer Manuals, Technical Guidance Manuals, Engineer Technical Letters, or Guide Specifications. Numerous other means of technology transfer are also used such as training courses, workshops, and other professional contacts. The Corps Civil Works R&D Program provides essential Product Lines with field ready end products and a high return on investment for the Corps, other Federal agencies and the Nation.

COORDINATION:
The Corps conducts Civil Works R&D through the U. S. Army Engineer Research and Development Center (ERDC) and the Institute for Water Resources (IWR). The ERDC consists of seven research laboratories:

Coastal and Hydraulics Laboratory, Vicksburg, MS
Cold Regions Research and Engineering Laboratory, Hanover, NH
Construction Engineering Research Laboratory, Champaign, IL
Environmental Laboratory, Vicksburg, MS
Geotechnical & Structures Laboratory, Vicksburg, MS
Information Technology Laboratory, Vicksburg, MS
Topographic Engineering Center, Alexandria, VA.

The IWR is located at Fort Belvoir, VA, and its Hydrologic Engineering Center (HEC) at Davis, CA. Policy guidance and executive oversight are provided by the Civil Works R&D Steering Committee comprised of Deputy Director of Civil Works, CW division chiefs, and the Director of Research and Development. The Directors of ERDC and IWR are responsible for execution of the CW R&D program.

In order to most effectively use the limited R&D resources and to avoid unnecessary duplication of research effort, the Civil Works R&D Program maintains external technical exchange and technology transfer efforts with other Federal and major water resource agencies including the TVA, Bonneville Power Administration, Western Area Power Administration, EPA, NSF, Department of Agriculture (NRCS), Park Service, NOAA, DOI (USBR, Forest Service, FWS, USGS, DHS (USCG, FEMA, US Border Patrol), DOT (FHWA, FAA, MARAD), NASA, International Boundary Water Commission, International Joint Commission, DOE (NRC, FERC), the Navy, and state and local governments.

APPROPRIATION TITLE: General Investigations, FY 2006

3. Research and Development

Corps researchers also maintain contact with the research activities of universities and industry through regular membership in such organizations as the American Society of Civil Engineers, the Civil Engineering Research Foundation, the American Concrete Institute, the American Society of Testing and Materials, the International Conference on Coastal Engineering, the American Association of Port Authorities, the American Society for Photogrammetry and Remote Sensing, Society of Environmental Toxicology and Chemistry, the Coastal Society, the Offshore Technology Conference, International Society of Soil Mechanics and Foundation Engineering, U.S. Society of Dams, and International Committees on Large Dams, the International Association for Hydraulic Research, the Association of American Geographers, Western Dredging Association and the International Navigation Association. The Corps also participates extensively with the Transportation Research Board, the Water Science and Technology Board, and the National Research Council in coordinating and leveraging research activities.

SUMMARIZED FINANCIAL DATA:

Estimated Five Year (FY 2006 - FY 2010) Program Cost	$180,000,000
Allocation Requested for FY 2006	22,000,000
Balance to Complete Five Year Program after FY 2006	158,000,000
Allocation for FY 2005	25,000,000
Change in FY 2006 from FY 2005	-3,000,000
Average Annual Allocation for FY 2000-FY 2005	24,000,000

The proposed FY 2006 R&D Program is structured to directly support the Civil Works Business Lines, their mission requirements and established performance objectives at project, watershed or river basin scales. The technical foundation of the R&D program includes:

. a. Navigation (including Hydropower)
b. Flood and Coastal Storm Damage Reduction (including Emergency Management, Water Supply, and Recreation)
c. Environmental (including Regulatory)
d. System Wide Water Resources

Navigation (including Hydropower)

The Corps provides inland and coastal navigation critical to the national economy and defense. Navigation research delivers environmentally sustainable products that improve efficiency, reliability, and capacity of this complex, aging transportation/power network. The research framework integrates infrastructure engineering, power physics, economics, innovative construction, coastal and riverine hydrodynamics and processes, monitoring and sensing technologies, operations research, environmental solutions, and emerging technologies to create effective solutions in concert with the multiple demands, requirements, and constraints of real world commodity transport and power production problems. Research efforts target navigation channels, locks, jetties, breakwaters, harbors, dams and power plants to optimize among life-cycle and reliability trade-offs, assure defensible economic assessment, and provide better investment decision tools for predicting performance and deterioration with time, and for scheduling and prioritizing maintenance and repairs balanced with the consequences of delays.

3. Research and Development

Flood and Coastal Storm Damage Reduction (including Emergency Management, Water Supply, and Recreation**)**

Corps projects across the Nation prevent flooding and storm damage. In the daily and seasonal operation of hundreds of Corps projects, national requirements for water supply and opportunities for recreation and environmental stewardship are also balanced. The Nation expects the Corps to guarantee that its existing projects maximize efficiency and effectiveness, and that new projects incorporate the most advanced knowledge and capabilities in planning, design, construction, operation, and maintenance. Through R&D, the Corps develops technology that optimizes daily operations of water resources projects to meet multiple objectives, including water supply and environmental stewardship. Through R&D, the Corps creates new solutions to challenging engineering problems in building, maintaining, upgrading, and operating the Nation's water resources infrastructure such as dams, locks, spillways, and channels. Through R&D, the Corps provides guidance and tools to understand the natural setting of water resource projects, to incorporate environmental & economic objectives, to assess alternative solutions, and to make optimal decisions. The technological requirements of emergency management are addressed to make possible the most rigorous planning and preparedness and the most efficient and effective response and recovery.

Environmental (including Regulatory)

The Corps has ecosystem restoration and environmental stewardship & management responsibilities on more than 11million acres of land and water resources. Due to the enormous scope of this mission, it is imperative that Corps field personnel be able to apply the latest technologies for ecosystem restoration and natural resource inventory. The scale of these activities ranges from large projects such as the Everglades down to much smaller, local wetlands/stream restoration projects. The broad scope of these environmental activities (as well as the frequent changes to the legislative mandates that govern them) demands sound research and development to address these critical needs. The goal of this R&D is to provide cost-effective/innovative technologies for project planning, design, engineering/construction and operation/maintenance. Product lines include Ecosystem Evaluation, Restoration, Environmental Stewardship and Management. Products are concise, how-to guidance documents that provide rapid/low-cost technologies and methods for high priority field needs. This technology is critical to the success of the Corps' Continuing Authorities Program (CAP) as well as larger GI-funded projects.

System Wide Water Resources

The goal of System-Wide Water Resources R&D is to provide the Corps of Engineers and its partners the capabilities to balance human development activities with the natural system in a sustainable manner through regional management and restoration of the Nation's water resources over broad temporal and spatial scales. The capabilities provided include science-based water resource management methodologies, implementation guidance, computational frameworks and technologies, and decision support. These capabilities are built from sound scientific principles reflecting an improved understanding of inter-relationships among key system attributes such as hydrology, geomorphology, chemistry, ecology, and socioeconomic. Capabilities will be served via a seamless, integrated architecture allowing projects to be considered at multiple scales during project planning, design, construction, operation, and maintenance. Current R&D emphasis in this area is on urban flood damage reduction and stream restoration technologies, regional sediment management, aquatic ecosystem management, assessment and restoration technologies, and regional and corporate frameworks for data collection, management and analysis. Each of these efforts is being

pursued through extensive partnering and collaboration with federal and state resource management agencies, academia, and the private sector.

3. Research and Development

PROJECTED CIVIL WORKS R&D FUNDING ALLOCATIONS (FY 05-06))

BY RESEARCH AREA	FY 2005 ALLOCATION	FY 2006 TENTATIVE ALLOCATION
a. Navigation (including Hydropower)	$ 6,500,000	$ 6,700,000
b. Flood and Coastal Storm Damage Reduction (including Emergency Management, Water Supply, and Recreation)	$ 6,800,000	$ 4,500,000
c. Environmental (including Regulatory)	$ 2,600,000	$ 1,700,000
d. System Wide Water Resources	$ 9,100,000	$ 9,100,000
	$25,000,000	$22,000,000

BY CW BUSINESS LINE	FY 2005 ALLOCATION	FY 2006 TENTATIVE ALLOCATION
a. Navigation	$ 9,750,000	$ 8,300,000
b. Flood & Coastal Storm Damage Reduction	$ 8,750,000	$ 8,000,000
c. Environmental	$ 6,500,000	$ 5,700,000
	$25,000,000	$22,000,000

APPROPRIATION TITLE: General Investigations, FY 2006

APPROPRIATION TITLE: General Investigations, FY 2006

3. Research and Development

a. Commercial Navigation

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2006-2010) Program Cost	$ 31,000,000
Allocation Requested for FY 2006	6,700,000
Balance to Complete After FY 2006	24,300,000
Allocation for FY 2005	6,500,000
Change in FY 2006 from FY 2005	-200,000

JUSTIFICATION:

The Corps' commercial navigation mission facilitates commercial navigation through investments in waterborne transportation systems (channels, harbors, and waterways) that are cost-effective and environmentally sustainable. The U.S. Marine Transportation System (MTS) consists of over 300 ports, 1,000 harbor channels, and 25,000 miles of navigation channels. The MTS is already operating at near-full capacity in many areas and is being challenged by new vessel designs and traffic loads that exceed its channel, harbor, and lock capacities. Over 50 percent of the Corps' 191 lock sites have been in service for more than 50 years. Research and development (R&D) can help reduce the costs associated with delays due to closures for both scheduled and unscheduled repairs, as well as reduce the risk of catastrophic failure of a major infrastructure component.

This R&D area provides advanced and innovative tools and technology for the Corps to improve navigation functional performance, reduce unit costs, and improve safety. The Corps is expected to apply robust, reliable, and comprehensive capabilities to assess the economics and effects of alternative plans for projects and to select the most balanced and sustainable solutions. R&D delivers efficient and effective capabilities to plan, design, construct, operate, maintain, and upgrade transportation projects in inland and coastal locations and in all climates, from warm to ice-affected. Capabilities to improve system reliability are needed in an asset management framework to extend project life and reduce life cycle costs. Engineering, economics, and environmental aspects are integrated in the development of processes and design models, economic models and decision support software, infrastructure condition assessment techniques, and economic and risk analysis frameworks, infrastructure and design guidance, and innovative monitoring, operation and maintenance technologies.

Navigation area economic R&D provides the framework and analytical tools that are key to quantifying problems, evaluating alternative competing solutions, and making informed investment decisions. Risk analysis provides a framework for organizing and quantifying underlying uncertainties in and management of existing facilities. Navigation Economic Technologies (NETS) provides enhanced and standardized evaluation tools and methods for shallow and deep draft navigation project life-cycle analyses. Peer reviewed procedures will be developed to improve traffic forecasts, economic benefits, and uncertainties in major improvement projects.

3. Research and Development

a. Commercial Navigation (continued)

FY 2006 ACTIVITY:

- Improved investment decisions with development of alpha version of Risk Analysis for Major Rehabilitation Software toolkit
- Better dredging cost estimates for navigation projects by adding risk and uncertainty to dredging cost model
- Partnering and stakeholder consensus with development of peer reviewed planning models and techniques
- Evaluation of reduced hinterland emissions and congestion through waterway alternatives
- Intermodal trade-off analysis with development of first generation multi-modal dynamic traffic routing model
- Improved economic forecasts through development of global spatial equilibrium model
- Savings in lock wall design through improved estimates of barge impact forces
- Improved decision making and investment strategy by improving system assessment of engineering reliability
- Reducing unscheduled closures, downtime, and increasing throughput with development of innovative evaluation, repair, and rehabilitation techniques for steel and concrete structures on navigation infrastructure
- Extend service life and minimize catastrophic failures with non-destructive testing, inspection technologies, and improved monitoring
- Optimization of cost and scheduling for coastal structure maintenance and repairs with integrated engineering and economic life cycle model

FY 2005 ACCOMPLISHMENTS:

- Improved navigation project justification with beta version of ”glass box” spatial equilibrium and regional routing models of waterway transportation system
- Improved international forecasting of petroleum and containers with first generation spatial equilibrium model
- Accurate forecasting of grains focusing on the Mississippi river with completion of global spatial equilibrium model
- Improved forecasting of benefits on navigation projects with completion of elasticity demand studies by commodity and river system
- Optimization of coastal navigation structure design with completed upgrade of near-shore wave models
- Reduction in probability of dam failure by identification of innovative technologies to detect scour next to navigation dams
- Increased dam safety due to technical guidance for seismic stability of concrete gravity dams
- Cost effective concrete navigation structure design through updated design guidance
- Better management of economic and engineering risk in inland and deep draft systems through continued development of simulation modeling
- Reduction of unscheduled lock closures with completed framework for evaluation of service and repairs on steel components of navigation projects

APPROPRIATION TITLE: General Investigations, FY 2006

3. Research and Development

b. Flood and Coastal Storm Damage Reduction

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2006-2010) Program Cost	$20,000,000
Allocation Requested for FY 2006	4,500,000
Balance to Complete after 2006	15,500,000
Allocation for FY 2005	6,800,000
Change in FY 2006 from FY 2005	-2,300,000

JUSTIFICATION:

As part of its Flood and Coastal Storm Damage Reduction mission, the Corps of Engineers is responsible for more than 600 dams, operates over 400 major lakes and reservoirs, maintains 8,500 miles of levees, and has over 100 coastal storm-damage reduction and related projects. Flooding that occurs in the United States costs about $4 billion annually. Without the Nation's investment in flood and coastal storm damage reduction infrastructure through the Corps, that cost would be many times higher. Over the years, Corps flood protection projects have prevented an estimated $706 billion in damages, most of that within the last 25 years. The cumulative cost of building and maintaining these projects to date is $119 billion; therefore, every dollar spent on flood protection has prevented more than six dollars in damage. Despite this protection, annual damages in flood plains continue to rise due to changes in land use and urban development. In addition, the 2000 census showed that more than 50% of the US population lives within 50 miles of a coast and is therefore vulnerable to dangerous coastal storms and costly flooding. Consequently, over the past several years, Federal shore protection expenditures increased to more than $100,000,000 per year to protect the public and related economic investments.

The Corps manages existing water resources projects around the country to maintain a flood-protection infrastructure for the public's welfare. Simultaneously, the Corps balances requirements for hydropower, water supply, environmental stewardship, and recreation. As enabling technologies are developed, the Corps must upgrade and improve water resource projects, use the most advanced capability to assess the risk of alternative operational scenarios, and apply robust, reliable, and comprehensive capabilities to assess the economic and environmental effects of alternative plans for projects and to select the most balanced and sustainable solutions. R&D delivers efficient and effective capabilities to plan, design, construct, operate, maintain, and improve water resource projects in all climates and settings, from warm to ice-affected, and from inland to coastal.

Capabilities that prevent loss of life, minimize property damage, and reduce the life-cycle costs of projects are critical. These capabilities include advanced processes and design models, economic models and decision support software, infrastructure condition and risk assessment tools, infrastructure design guidance, innovative operation and maintenance technologies, flood-alert instrumentation and expedient emergency response capabilities, and the capability to take advantage of new real-time data sources (e.g. precipitation radar) to accurately forecast real-time flow and stages.

APPROPRIATION TITLE: General Investigations, FY 2006

3. Research and Development

b. Flood and Coastal Storm Damage Reduction (continued)

This R&D component provides advancements in hydrologic and hydraulic simulation, water resources project optimization, tools for effective alternative analyses for solutions, infrastructure safety, structural design and performance, and assessment of the risk and uncertainty associated with project designs. This R&D component also improves the technology available to emergency managers for emergency planning, preparedness, response, recovery, and assessment.

FY 2006 ACTIVITY:

- Improving flood forecasting for project operation and emergency management by enhancing snowmelt runoff prediction capabilities in hydrologic models.
- Making channel stabilization and restoration designs more robust for ice-affected rivers by developing new guidance.
- Improving the planning process by creating a web-accessible Planner's Catalog of Management Measures.
- Improving the Corps' collaborative planning process through the release of hardcopy and web based guidance and support tools.
- Developing non-level pool routing and downstream flow-rate-of-change simulation capabilities for reservoir/stream systems through modifications to HEC-ResSim.
- Improving the capability to simulate the impacts of ice jams by adding modules to the Corps' river hydraulics model, HEC-RAS.
- Making hydrologic and hydraulic modeling seamless by releasing the first version of Water Analysis Tool (WAT), which integrates HEC tools.
- Upgrading CWMS (the system used for real-time water management operations throughout the Corps) by adding continuous forecasting capabilities.
- Providing comprehensive technical input and guidance on procedures and tools for the National Teams performing Corps-wide Dam Safety Portfolio Risk Assessment using the unified risk analysis techniques and tools previously developed.
- Ensuring life-safety under extreme loads by testing and validating risk-based estimation tools for piping & seepage through dams, embankment breaching, and gate operation performance.
- Improving channel stabilization measures through new engineering and design guidance for riverbed grade control structures and streambank protection.
- Developing engineering guidance and performance evaluation criteria for semi-embedded structures capacity assessment and pushover analysis.
- Evaluating performance of earth structures through physical modeling and improving modeling techniques

FY 2005 ACCOMPLISHMENTS:

- Improved capability to plan and analyze projects by developing HEC-WAT (Watershed Analysis Tool), which integrates HEC hydrology, hydraulics, reservoir systems, flood damage, and statistical analysis software.
- Upgraded and enhanced the HEC statistical software package (HEC-SSP) for modern computing environments
- Advanced geospatial capabilities for supporting hydrology and hydraulic analysis.
- Improved capabilities to model a range of gate types and operational requirements through enhancements to HEC-ResSim.
- Improved the Corps Water Management System (CWMS) for real time flow/stage forecasting.
- Flood-damage analyses using HEC-FDA were streamlined by adding capability to use geospatial data to create and revise structure inventories.
- Advanced the one-dimensional river hydraulics model, HEC-RAS, used across the Corps and around the world by thousands of river engineering practitioners.

3. Research and Development

b. Flood and Coastal Storm Damage Reduction (continued)

- Provided comprehensive, unified risk analysis techniques for prioritization of dam safety needs across all hazards and all projects and applied it to two selected District portfolios.
- Developed risk-based estimation tools for piping & seepage through dams, embankment breaching, and gate operation performance to ensure life-safety under extreme loads.
- Developed physical experiments of non-floodplain ice-control structures alternative designs, and validated numerical simulations using field data for the development of ice-control structures design procedures.
- Completed evaluation of study sites and finalized engineering design guidance for grade control structures.
- Initiated preliminary field investigations and data collection, including identifying types of bank stabilization features suitable for analysis.
- Developed engineering guidance using finite-element and finite-difference modeling and analysis of semi-embedded structures.
- Developed engineering guidance based on earth structure database numerical model

APPROPRIATION TITLE: General Investigations, FY 2006

3. Research and Development

c. Environmental

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2006-2010) Program Cost	$9,000,000
Allocation Requested for FY 2006	1,700,000
Balance to Complete after FY 2006	7,300,000
Allocation for FY 2005	2,600,000
Change in FY 2006 from FY 2005	-900,000

JUSTIFICATION:

Since the Water Resources Development Act of 1986, there have been dramatic increases in authorized ecosystem restoration studies, projects and programs (Continuing Authorities Program / GI Projects). At the same time, the Corps has continued to operate and maintain 25,000 miles of inland and coastal navigation waterways, 5,500,000 surface acres of reservoirs, 237 navigation locks, over 1300 ports and harbors, 75 hydropower projects, 879 flood control projects, and thousands of acres of adjacent lands as part of its water resource mission. Wide-ranging environmental compliance, management, and restoration efforts are now crucial parts of the Corps water resource management mission. The Corps must consider environmental issues related to the operation and maintenance of its existing projects as well as the restoration and enhancement of ecosystems altered through earlier Corps activities. In addition, the Corps must proactively address potential negative environmental impacts resulting from proposed activities. The Environmental Technologies research area addresses the Corps' highest priority environmental issues through the development and application of state-of-science, cost-effective, time-saving technologies including: 1) ecological and engineering guidelines for dam removal, 2) engineering & biological technologies for the quantitative and qualitative evaluation of aquatic resources, 3) guidance for improved restoration of rivers, streams and riparian zones, 4) standard design criteria for wetlands and special aquatic site restoration projects, and 5) natural resource inventory technologies for Corps-wide reporting The user-oriented products will provide scientifically defensible / field validated solutions to the Corps' highest priority environmental problems. They will also reduce unnecessary regulatory burdens, provide environmental benefits, and maintain a very high return on taxpayer investment.

3. Research and Development

c. Environmental (continued)

FY 2006 ACTIVITY:

- Conduct field exercises to validate and refine pre-project predictive models using post-project sampling of aquatic fauna and habitat resulting from constructed Corps projects.
- Develop guidelines to evaluate the physical and ecological responses following dam removal projects and recommended alternatives to reduce potential adverse impacts
- Develop a dynamic, multi-functional approach for assessing aquatic ecosystem projects

Provide a draft GIS-based procedure for prioritizing potential wetland restoration projects/sites based on their ability to replace desired wetlands functions

- Develop technologies for the quantitative and qualitative assessment of riparian and stream functions on former, current, and planned restoration projects

Provide a protocol for standardized Level 1 natural resource inventories (as required under ER 1130-2-540, Sec 2-2c) on all Corps lands to aid in the management of critical resources

FY 2005 ACCOMPLISHMENTS:

- Developed technologies to assess and quantify the environmental benefits and impacts from a wide range of water resource projects at a scale appropriate to the project needs and constraints
- Provided guidelines for assessing restoration alternatives for channels and riparian corridors following dam removal projects
- Developed a multi-functional approach to riparian and in-stream restoration techniques that improves species protection as well as environmental quality
- Initiated development of protocol for improved natural resource inventory techniques for Corps lands to insure their preservation
- Initiated modifications to a regionally-specific approach for prioritizing potential wetlands restoration sites to make it more national in scope
- Provided hydrogeomorphic regional guidebooks for depressional, and riverine wetlands in Arkansas and California,

APPROPRIATION TITLE: General Investigations, FY 2006

3. Research and Development

d. System-Wide Water Resources.

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY 2006-2010) Program Cost	$45,000,000
Allocation Requested for FY 2006	9,100,000
Balance to Complete after FY 2006	36,400,000
Allocation for FY 2005	9,100,000
Change in FY 2006 from FY 2005	0

JUSTIFICATION:

In view of the importance of sustainability in water resources management, the Corps is adopting a watershed or basin-wide approach, which adds a system-wide perspective to project planning, design, operations and maintenance activities. This spatially expanded perspective is necessary because water resources projects and resultant changes in land/water use have consequences well beyond project footprints. Key to sustainability is the balance among environmental, economic and societal concerns. The System-Wide Water Resources component of the Civil Works GI R&D Program is designed to provide the Corps with the technical capabilities required to meet its mission responsibilities at project, watershed, and large basin scales, while effectively engaging stakeholders and decision makers with potentially competing interests (e.g., environmental vs. economic).

Wide-ranging proactive environmental compliance, management, and restoration efforts are an integral part of the Corps responsibilities in water resources management. Recent U.S. figures have estimated $16 billion per year in damages caused by point- and non-point-source pollution, with up to 1 billion tons per year of eroded soils and industrial and agricultural contaminants being deposited in the Nation's waterways. These impacts are severely affecting multiple project uses, impeding navigation, impeding ecosystem restoration efforts, and negatively affecting human and ecological health. An integral part of the Corps' mission is to ensure that project planning, construction, operation, and maintenance activities solve critical environmental problems, while ensuring economic viability and societal acceptance. The System-Wide Water Resources component is providing, at a regional scale, scientifically proven and demonstrated solutions to the Corps' highest priority environmental problems, reducing unnecessary regulatory burdens, and providing environmental benefits, while maintaining a very high return on taxpayer investment. The broadened focus of this research, which addresses systemic water resource management issues, will enable the Corps to more effectively meet legal requirements such as the National Environmental Policy Act (NEPA) and the Endangered Species Act (ESA).

Maintaining navigable waterways and flood channels in the face of continuing sediment deposition consumes a substantial portion of the Corps' budget. More effective sediment management on a regional scale can reduce dredging costs and potentially adverse environmental impacts by diverting sediment from channels and into deposition zones. Sediment and associated nutrients/contaminants also have important effects on the environment. Thus, a better understanding of sediment processes in an environmental context is critical in relation to habitat and water quality concerns regionally. Also, attention to sediment processes in the Corps O&M program will improve cost effectiveness in planning and designing navigation projects, estimating channel shoaling, locating optimum dredged-material placement, and assessing the impact of navigation projects and structures on adjacent waters, shorelines, and downstream areas.

APPROPRIATION TITLE: General Investigations, FY 2006

3. Research and Development

d. System-Wide Water Resources (continued)

Decision makers both within the Corps and among stakeholder organizations require accurate and reliable data for the effective planning, design, construction, operation, maintenance, and rehabilitation of projects. Annual expenditures for collection, analysis, and management of geospatial data alone are estimated to average almost $200 million. This component of the overall Program will provide significant savings, owing to the development of more effective and efficient data collection, management, and exploitation technologies. To further reduce costs, a new framework approach is being developed to integrate and manage data and decision support software in a consistent, corporate manner. The developed information framework will integrate many of the data, technologies, models, and decision support tools across the Corps' business activities for the many different communities of practice that support regional water resource management activities. The framework will include all aspects of informatic development, including but not limited to automated information systems, information security, enterprise GIS, metadata standards, model/decision support tool interoperability, data visualization, and knowledge management.

As new and innovative technologies and methodologies are developed in this component, it will be critical to transfer information concerning these innovations to the Corps, other Federal, state, and local agencies, and to the public as quickly and efficiently as possible so that they can be effectively applied. It will be equally important to validate the applicability of the innovative technologies through demonstrations, which are a key element of this component. Examples include innovative use of remote sensing for environmental monitoring and satellite linked GIS/GPS laptops to assist with onsite environmental analyses that can be connected quickly on a system scale.

The System-Wide Water Resources component of the Program will continue to develop and deliver technology to support decisions that are scientifically, technically, and economically sound in formulating and executing watershed projects. The products of this component serve a wide variety of needs and interests, ranging from decision makers to technical specialists to stakeholders and partners. New technologies are being delivered to users via the Internet in a consistent, yet personalized, web-based format, together with tutorials explaining their characteristics and use. Analytical tools provided by this component serve a range of needs, ranging from screening level assessment capabilities to detailed numerical models. Many tools will be interconnected with standard linkages. The scientific rigor of these tools continues to increase with gains in scientific knowledge, as part of the continued maintenance and upgrading of capabilities.

FY 2006 ACTIVITIES

- Beta test new releases of watershed models with network improvements including urban simulation capabilities.
- Release of new reservoir water optimization model combining the capabilities of separate models into one.
- Advance the computational structure of both one-dimensional and multi-dimensional hydrology and hydraulics models to accommodate additional sediment and water quality transport modules. Modular algorithm design accommodates interagency use.
- Beta test new releases of sediment erosion, transport, and deposition capabilities in single and multi-dimensional river models. Modular algorithm design used to accommodate interagency collaboration.
- Release of fielded model (Cascade) for coastal shoreline evolution.
- Refine linkages among multi-dimensional hydrodynamic models for system-wide water resources assessments.
- Initiate quantification of large-scale nitrogen removal processes in large river/estuarine systems.
- Improve material transport predictability for large rivers and their watersheds with innovative nutrient transport algorithms.
- Improve tiered structure and access to tools for ecological response prediction to changes in landscape features.

3. Research and Development

d. System-Wide Water Resources (continued)

- Complete assembly of ecological assessment tool catalogue and watershed planning document.
- Complete planning level TMDL tool and develop beta version of an advanced (multi-dimensional, coupled models) TMDL assessment tool.
- Develop ecological indicators (with other agencies/NGOs) for system-wide adaptive management.
- Advance ecological modeling capabilities with selected improved ecological response modules.
- Demonstrate innovative floodplain and aquatic habitat assessment techniques using index-based, flow prescription, and agent-based modeling approaches.
- Develop a standard suite of automated tools and services that support the visualization and browsing of various scientific data types.
- Formalize data sharing agreements with other government agencies and industry.
- Develop standard Graphical User Interfaces that streamline the connectivity of models of different spatial, temporal, and process mechanics.
- Implement common model data format in selected computational models.
- Develop innovative approaches (e.g., combined hyperspectral, thermal, and visual) remote sensing technologies for ecosystem assessment and monitoring.
- Develop innovative spatial monitoring/assessment technologies using isotopes and geochemical markers.
- Integrate geospatial applications into the System Wide Water Resources decision support system.
- Acquire data for selected demonstration areas and develop regional measurement and monitoring data collection specifications for future studies.

FY 2005 ACCOMPLISHMENTS

- Improved watershed models (HEC-HMS & GSSHA) for more comprehensive studies in complex urban and rural landscapes.
- Developed hydrologic toolset for defensible model-parameter estimation, solution sensitivity analysis, and stochastic simulation.
- Developed guidelines for parameter selection for more efficient partially saturated flow simulations over large time-space scales.
- Improved computational hydraulic routines in models (HEC-RAS & ADH) to support sediment and nutrient transport.
- Advanced reservoir water optimization tools for balancing multiple stakeholder objectives.
- Improved computational hydraulic routines in coastal models (STWAVE & ADCIRC) to support sediment transport.
- Sediment transport included in watershed models (HEC-HMS & GSSHA). Modular algorithm design for interagency use.
- Sediment erosion, transport, and deposition capabilities added to single and multi-dimensional river models (HEC-RAS & ADH). Modular algorithm design used for interagency collaboration.
- Released sediment impact analysis model (SIAM) for watershed stream networks. Rapid analysis of impacts of project alternatives on watersheds is possible.
- Released test-version of new-concept model (Cascade) for coastal shoreline evolution along with advanced Regional Morphology Analysis Package (RMAP) to support it.
- Developed nutrient transport and fate algorithms for watershed and riverine assessment and prediction models (HEC-HMS, GSSHA, & HEC-RAS).
- Compiled tiered ecological assessment tool catalogue with user-friendly access.
- Developed planning level ecological response tools for conceptual models, geospatial watershed assessments, and TMDL analysis.
- Developed ecological response algorithms that are sensitive to physical, chemical, and biological phenomena over multiple spatial and temporal scales.

3. Research and Development

e. System-Wide Water Resources (continued)

- Demonstrated floodplain habitat assessment methodologies in an arid region and initiated assessment methodologies in an eastern region.
- Initiated ecological modeling in complex river systems using trophic-level and agent-based models.
- Developed common data format and procedures for linking selected hydrodynamic codes to selected index, geospatial, and water quality models.
- Integrated statistical methods with GIS to perform regional analysis for watersheds necessary for water resources-related risk estimation.
- Developed a standard approach to the development of graphical user interfaces to support user-friendly interaction with multi-dimensional models.
- Initiated linkages among the riverine, estuarine and coastal hydrodynamic models to broaden the spatial scope to material transport.
- Initiated innovative and emerging measurement and monitoring technologies using hyperspectral imagery and isotopes.
- Developed initial integrated computational and information framework that provides a corporate and standardized structure for efficient utilization of water resource assessment technologies.
- Developed a web-based decision support prototype for system-wide alternatives analysis.

Justification of Estimates for Civil Functions Activities
Department of the Army, Corps of Engineers
Fiscal Year 2006

SUMMARY OF REMAINING ITEMS
CONSTRUCTION, GENERAL

	FY 2005 Appropriation	FY 2006 Request	Increase (Decrease)
2. Navigation Projects			
a. Channels and Harbors			
(II) Projects Not Specifically Authorized By Congress (Sec. 107, P.L. 86-645)	9,000,000	0	(9,000,000)
(III) Mitigation of Shore Damages Attributable to Navigation Projects (Sec. 111, P.L. 90-483)	1,000,000	1,500,000	500,000
(IV) Dredged Material Disposal Facilities Program (sec. 101, P.L. 99-662)	8,834,000	12,000,000	3,166,000
c. Inland Waterways Users Board (Sec. 302, P.L. 99-662)			
(I) Board Expenses	45,000	40,000	(5,000)
(II) Corps Expenses	185,000	170,000	(15,000)
4. Shore Protection Projects			
a. Shoreline Erosion Control Development and Demonstration Program (Sec. 227, P.L. 104-303)	7,000,000	0	(7,000,000)
b. Projects Not Specifically Authorized by Congress (Sec. 103, P.L. 87-874)	3,000,000	500,000	(2,500,000)
5. Flood Control Projects			
a. Local Protection			
(II) Projects Not Specifically Authorized by Congress (Sec. 205, P.L. 80-858)	27,000,000	13,000,000	(14,000,000)
(III) Emergency Streambank and Shoreline Protection (Sec. 14, P.L. 79-526)	12,000,000	4,000,000	(8,000,000)
(IV) Snagging and Clearing (Sec. 208, P.L. 83-780)	450,000	400,000	(50,000)
6. Dam Safety and Seepage/Stability Correction Program	10,500,000	11,000,000	500,000

Justification of Estimates for Civil Functions Activities
Department of the Army, Corps of Engineers
Fiscal Year 2006

SUMMARY OF REMAINING ITEMS

CONSTRUCTION, GENERAL

	FY 2005 Appropriation	FY 2006 Request	Increase (Decrease)
10. Improvement of the Environment			
a. Project Modifications for Improvement of the Environment (Sec. 1135, P.L. 99-662)	25,000,000	15,000,000	(10,000,000)
b. Aquatic Ecosystem Restoration (Section 206, P.L. 104-303)	25,000,000	15,000,000	(10,000,000)
c. Estuary Restoration Program (P.L. 106-457)	1,000,000	5,000,000	4,000,000
d. Abandoned/Inactive Noncoal Restoration	1,000,000	0	(1,000,000)
12. Aquatic Plant Control Program	4,500,000	3,000,000	(1,500,000)
13. Beneficial Uses of Dredged Material (Sec. 204, P.L. 102-580, Sec.207, P.L. 102-580, Sec. 933, P.L. 99-662)	6,000,000	3,000,000	(3,000,000)
14. Employees Compensation (Payments to Department of Labor)	20,000,000	21,000,000	1,000,000
16. Tribal Partnership	4,000,000	0	(4,000,000)
19. Construction Suspension Fund	0	80,000,000	80,000,000
Total	165,514,000	184,610,000	(56,904,000)

APPROPRIATION TITLE: Construction, General, FY 2006

2. Navigation Projects

a. Channels and Harbors

(III) Mitigation of Shore Damages Attributable to Navigation Projects (Section 111, PL 90-483, as amended)

Allocation FY 2005	$1,000,000	Tentative Allocation FY 2006	$1,500,000

GENERAL: Section 111 of the River and Harbor Act of 1968 (PL 90-483), as amended, authorizes the construction of projects for the prevention or mitigation of shore damages attributable to Federal navigation works. The cost of installation is cost shared in the same manner as the costs for the project causing the shore damage were shared. The cost of operation and maintenance is borne by the non-Federal sponsor. Projects first cost shall not exceed $5,000,000 without specific authorization by Congress.

BUDGET REQUEST: The $1,500,000 requested for Fiscal Year 2006 is to continue the Section 111 program of mitigation of shore damages attributable to Federal navigation works. No funds are included for new construction starts.

APPROPRIATION TITLE: Construction, General, FY 2006

2. Navigation Projects

a. Channels and Harbors

(IV) Dredged Material Disposal Facilities Program

Allocation FY 2005	$8,834,000	Tentative Allocation FY 2006	$12,000,000

GENERAL: Section 101 of the Water Resources Development Act of 1986 (WRDA 86)(Public Law 99-662) as amended by Section 201 of the Water Resources Development Act of 1996 (WRDA 96)(Public Law 104-303) established consistent cost-sharing for construction of dredged material disposal facilities associated with Federal navigation projects, including disposal facilities for Federal project maintenance. The costs of constructing land-based and aquatic dredged material disposal facilities associated with the construction, operation, and maintenance of all Federal navigation harbors and inland harbors shall be considered costs of constructing a general navigation feature of the project and shall be shared in accordance with the procedures set forth in section 101(a) of WRDA 86.

BUDGET REQUEST: The $12,000,000 requested for Fiscal Year 2006 will be used for the Federal share of construction of applicable dredged material disposal facilities required for maintenance of existing projects, reimbursement of non-Federal sponsors for dredged material disposal facilities constructed by them in advance of Federal appropriations for such purpose, or fee payments to private entities for the use of privately owned dredged material disposal facilities if such a facility is the least cost alternative to dispose of dredged material. All costs for dredged material disposal facilities associated with project construction and maintenance will be reimbursed from the Harbor Maintenance Trust Fund.

APPROPRIATION TITLE: Construction, General, FY 2006

2. Navigation Projects

c. Inland Waterways Users Board

Allocation FY 2005	$230,000	Tentative Allocation FY 2006	$210,000

The $230,000 requested for Fiscal Year 2006 is to support, operations and expenses of the Inland Waterways Users Board, established by Section 302 of the Water Resources Development Act of 1986, (PL 99-662) and pursuant to the Board's charter, approved by the Secretary of the Army on March 3, 1987. The Board is an advisory committee subject to the requirements of the Federal Advisory Committee Act (PL 92-463).

(1) Funds in the amount of $40,000 are requested to meet the estimated expenses of the eleven member Board for its travel, meeting, and other needs to meet the requirements of the Charter.

(2) Funds in the amount of $170,000 are requested for Corps of Engineers expenses related to its responsibilities as an advisory committee sponsor. The Director of Civil Works has been designated Executive Director to the Board, and he has designated staff members to provide continuing Board support. Corps expenses will include personnel costs for administrative Board meeting support, including staff travel, clerical, printing, and related materials.

APPROPRIATION TITLE: Construction, General, FY 2006

4. Shore Protection Projects

b. Projects Not Specifically Authorized by Congress (Section 103, PL 87-874, as amended)

Allocation FY 2005	$3,000,000	Tentative Allocation FY 2006	$500,000

GENERAL: Section 103 of the River and Harbor Act of 1962 (PL 87-874), as amended, authorizes up to $30,000,000 annually for construction of shore restoration and protection projects where not already specifically authorized by Congress. Projects under this special authority are formulated to provide the same complete project and same degree of protection provided under regular authorization procedures. Each project selected must be economically justified and complete within itself. Federal cost participation is limited to $3,000,000 per project.

BUDGET REQUEST: The $500,000 requested for Fiscal Year 2006 is to continue the Section 103 program of development and construction of hurricane and storm damage protection measures along the Nation's shorelines. No funds are included for new construction starts.

APPROPRIATION TITLE: Construction, General, FY 2006

5. Flood Control Projects

a. Local Protection

(II) Projects Not Specifically Authorized by Congress (Section 205, PL 80-858, as amended)

Allocation FY 2005	$27,000,000	Tentative Allocation FY 2006	$13,000,000

GENERAL: Section 205 of the Flood Control Act of 1948 (PL 80-858), as amended, authorizes up to $40,000,000 annually for construction of flood control projects where such construction is not already specifically authorized by Congress. Projects are designed to provide the same complete project and same degree of protection provided under regular authorization procedures. Each project selected must be economically justified and complete within itself. Federal cost participation is limited to $7,000,000 per project.

BUDGET REQUEST: The $13,000,000 requested for Fiscal Year 2006 is to continue the Section 205 program of development and construction of flood damage prevention projects at locations throughout the Nation. No funds are included for new construction starts.

(III) Emergency Streambank and Shoreline Protection (Section 14, PL 79-526, as amended)

Allocation FY 2005	$12,000,000	Tentative Allocation FY 2006	$4,000,000

GENERAL: Section 14 of the Flood Control Act of 1946 (PL 79-526), as amended, authorizes up to $15,000,000 annually for the construction of emergency bank protection works to prevent flood damages to highways, bridge approaches, public works, churches, hospitals, schools, and other non-profit public services. Each project selected must be economically justified and complete within itself. Federal participation under this authority is limited to a cost of not more than $1,000,000 at any single locality.

BUDGET REQUEST: The $4,000,000 requested for Fiscal Year 2006 is to continue the Section 14 program of emergency bank protection construction to prevent flood damages to highways, bridge approaches, and essential public facilities at locations throughout the Nation. No funds are included for new construction starts.

APPROPRIATION TITLE: Construction, General, FY 2006

5. Flood Control Projects

a. Local Protection

(IV) Snagging and Clearing (Section 208, PL 83-780, as amended)

Allocation FY 2005	$450,000	Tentative Allocation FY 2006	$400,000

GENERAL: Section 208 of the Flood Control Act of 1954 (PL 83-780), as amended, authorizes up to $7,500,000 annually for removing accumulated snags and other debris, and clearing and straightening of the channels in navigable streams and tributaries thereof, when in the opinion of the Chief of Engineers such work is advisable in the interest of flood control. Federal cost participation under this authority is limited to a cost of not more than $500,000 for any single tributary. Each project selected must be economically justified and complete-within-itself.

BUDGET REQUEST: The $400,000 requested for Fiscal Year 2006 is to continue the Section 208 program of channel clearing in the interest of flood control at locations throughout the Nation. No funds are included for new construction starts.

APPROPRIATION TITLE: Construction, General, FY 2006

6. Dam Safety and Seepage/Stability Correction Program

Allocation FY 2005	$10,500,000	Tentative Allocation FY 2006	$11,000,000

GENERAL: The Dam Safety and Seepage/Stability Correction Program provides for modification of completed Corps of Engineers dam projects. There are over 700 dam projects under Corps jurisdiction. While no Corps dams are in imminent danger of failure, some may have a higher dam-safety risk than originally anticipated based on new data or the likelihood of extremely large floods and seismic events. Seepage problems at USACE dams are usually related to increased reservoir levels above the previous pool of record at a project. Static instability generally involves movement that starts at a slow rate and could result in massive displacement of large volumes of material if not corrected. Seepage/stability correction projects are classified as major rehabilitations. Dam modification work is proceeding under existing authorities on projects where cost-effective risk reduction measures have been identified and approved.

BUDGET REQUEST: The $11,000,000 requested for Fiscal Year 2006 will be used to initiate Dam Safety and Seepage/Stability projects which may be approved during FY 2006 as a result of studies now underway.

APPROPRIATION TITLE: Construction, General, FY 2006

10. Improvement of the Environment

a. Project Modifications for Improvement of the Environment (Section 1135, PL 99-662, as amended)

Allocation FY 2005	$25,000,000	Tentative Allocation FY 2006	$15,000,000

GENERAL: Section 1135 of the Water Resources Development Act of 1986 (PL 99-662), as amended authorizes review of Corps water resources projects to determine the need for structural or operational modifications for the purpose of improving the quality or the environment in the public interest; to determine if the operation of such projects has contributed to the degradation of the quality of the environment; and to carry out a program of such modifications that are feasible and consistent with authorized project purposes. Up to $25,000,000 may be appropriated annually. The non-Federal share of the cost of any modifications will be 25 percent. Modifications with estimated Federal costs over $5,000,000 require specific Congressional authorization.

BUDGET REQUEST: The $15,000,000 requested for Fiscal Year 2006 is to continue the Section 1135 program of project modifications in the interest of improving the quality of the environment. No funds are included for new construction starts.

b. Aquatic Ecosystem Restoration (Section 206, P.L. 104-303)

Allocation FY 2005	$25,000,000	Tentative Allocation FY 2006	$15,000,000

GENERAL: Section 206 of the Water Resources Development Act of 1996 authorizes up to $25,000,000 annually to carry out aquatic ecosystem restoration projects that will improve the quality of the environment, are in the public interest and are cost-effective. Non-Federal interests shall provide 35 percent of the cost of construction including provision of all lands, easements, rights-of-way, and necessary relocations. Non-Federal interests shall pay 100 percent of the cost of operation, maintenance, replacement and rehabilitation. Not more than $5,000,000 in Federal funds may be allocated to a project at a single locality.

BUDGET REQUEST: The $15,000,000 requested for Fiscal Year 2006 is to continue the Section 206 program of aquatic habitat restoration. No funds are included for new construction starts.

c. Estuary Restoration Program (Title I of P.L. 106-457).

Allocation FY 2005	$1,000,000	Tentative Allocation FY 2006	$5,000,000

GENERAL: The Estuary Restoration Act of 2000, Title I of P.L. 106-457 authorizes the Secretary to carry out estuary habitat restoration projects recommended for implementation by the Estuary Habitat Restoration Council and meeting various criteria. Each project must address restoration needs identified in an estuary habitat restoration plan, be consistent with the estuary habitat restoration strategy developed under the Act, include a monitoring plan that is consistent with the standards for monitoring developed under the Act and include satisfactory assurance from the non-Federal interests proposing the project that the non-Federal interest will have the capability to carry out items of local cooperation, including maintenance. Except when innovative technology is involved the Federal share may not exceed 65 percent of the cost of the project. Non-Federal interests shall provide lands, easements, rights-of-way and relocations and are responsible for all costs associated with operating (including monitoring), maintaining, replacing, repairing, and rehabilitating the projects.

BUDGET REQUEST: The $5,000,000 requested for Fiscal Year 2006 is to continue the program of estuary habitat restoration.

APPROPRIATION TITLE: Construction, General, FY 2006

12. Aquatic Plant Control (APC) Program

Allocation FY 2005	$4,500,000	Tentative Allocation FY 2006	$3,000,000

GENERAL: Aquatic plant control research is the nation's only Federally authorized research program for technology that is necessary to manage non-indigenous aquatic plant species. The objective of the research is to develop cost effective, environmentally compatible aquatic plant control technology, including biological, chemical, and integrated control methods. Research involving management strategies and applications and ecological factors are also being conducted. The control technology, management strategies and ecological understanding resulting from APC research forms the national base in the APC area, and is applied not only to control aquatic plant infestations in public waters nationwide, but is also essential to cost effective, environmentally compatible, aquatic plant control for the operation and maintenance of Corps projects. Nearly 3.0 million acres nationwide are now infested with problem aquatic plants. The Corps manages over 5.6 million surface acres of water at its reservoir projects alone, with significant additional acreage as part of navigation projects. Eurasian watermilfoil, hydrilla, alligatorweed, and other exotic species continue to expand from local infestations, many of which are interfering with navigation, flood control, hydropower production water quality and aquatic habitat. New colonies of objectionable aquatic plants continue to be found, such as hydrilla in the southeast and Eurasian watermilfoil in the Midwest. The direct application of technologies developed by research under the Aquatic Plant Control Program have resulted in the reduction of waterhycinth in the Gulf Coast States and California of over 3 million acres. In Louisiana alone, water hyacinth has been reduced from 1.5 million acres to about 200,000 acres. In addition, technology developed by the APC research program has resulted in a nationwide reduction of alligatorweed. Estimated annual savings produced by application of these APC research technologies are between $15,000,000 and $20,000,000 over the costs of conventional methods. The Aquatic Plant Control Program is authorized by Section 104 of the River and Harbor Act of 1958, (P.L. 85-500), as amended by Section 104 of the River and Harbor Act of 1962, (P.L. 87-874), Section 302 of the River and Harbor Act of 1965 (P.L. 89-298), and Sections 103, 105, and 941 of the Water Resources Development Act of 1986 (P.L. 99-662), Section 225 of the Water Resource Development Act of 1996 and Section 205 of the Water Resource Development Act of 1999 (P.L. 106-53). The APC program has an annual expenditure ceiling of $15,000,000.

BUDGET REQUEST: The $3,000,000 requested for Fiscal Year 2006 will be used for continued research efforts for aquatic plant control technologies to support the operation and maintenance of Corps projects. Efforts will focus on control methods for submersed aquatic plants (i.e. Eurasian watermilfoil, and hydrilla), with emphasis on biological control agents, chemicals, integrated control methods, management strategies and ecological factors that impact non-indigenous aquatic plant species . Research efforts are fully coordinated with other Federal, state, and local agencies to prevent duplication of effort and to ensure that research under this program is consistent with, and complementary to, the research efforts of others. The cost of research dealing with problems/outputs of regional or nationwide importance is 100 percent Federal.

APPROPRIATION TITLE: Construction, General, FY 2006

13. Beneficial Uses of Dredged Material (Sec. 204, P.L. 102-580, Sec.207, P.L. 102-580, Sec. 933, P.L. 99-662)

Allocation FY 2005	$6,000,000	Tentative Allocation FY 2006	$3,000,000

GENERAL: Section 204 of the Water Resources Development Act of 1992 (Public Law 102-580) authorizes the Secretary of the Army to carry out projects for the protection, restoration, and creation of aquatic and ecologically related habitats, including wetlands, in connection with dredging for construction, operation, or maintenance by the Secretary of an authorized navigation project. Annual appropriations not to exceed $15,000,000 are authorized. Non-Federal interests are required to share in a minimum of 25 percent of the cost of each project including the provision of all required lands, easements, rights-of-way and relocations with the value of these contributions included in the 25 percent non-Federal share of the project and to pay 100 percent of the operation, maintenance, and replacement and rehabilitation cost of the wetland or other aquatic habitat area. The costs of the habitat protection, restoration or creation project are limited to costs which are in excess of those costs necessary to carry out the dredging for the authorized navigation project.

BUDGET REQUEST: The $3,000,000 requested for Fiscal Year 2006 is to continue a cost shared program for the protection, restoration and creation of aquatic and ecologically related habitats, including wetlands. No funds are included for new construction starts.

APPROPRIATION TITLE: Construction, General, FY 2006

14. Employees Compensation (Payments to the Department of Labor)

Allocation FY 2005	$20,000,000	Tentative Allocation FY 2006	$21,000,000

GENERAL: Public Law 94-273, approved April 21, 1976, 5 USC 8147b, provides that each agency shall include in its annual budget estimates a request for an appropriation equal to costs previously paid from the Employees Compensation Fund on account of injury or death of employees or persons under the agency's jurisdiction.

BUDGET REQUEST: The $21,000,000 requested for Fiscal Year 2006 represents the total costs of benefits and other payments made from the Employees Compensation Fund during the period July 1, 1999, through June 30, 2000, due to injury or death of persons under the jurisdiction of the Corps of Engineers civil functions and also includes $1,200,000 for the investigation of fraudulent claims for workers' compensation benefits.

APPROPRIATION TITLE: Construction, General, FY 2006

19. Construction Suspension Fund

Allocation FY 2005	$0	Tentative Allocation FY 2006	$80,000,000

GENERAL: For projects being considered for suspension of construction, the construction suspension fund provides funding for the costs of completing or terminating each ongoing contract, whichever is less, plus associated in-house costs. Termination costs include the costs of settled claims.

BUDGET REQUEST: The $80,000,000 requested for Fiscal Year 2006 will be used for projects being considered for suspension of construction, the construction suspension fund provides funding for the costs of completing or terminating each ongoing contract, whichever is less, plus associated in-house costs. Termination costs include the costs of settled claims. Fiscal Year 2006 funds will be used for termination or completion costs on the contracts for the following projects:

BIG SIOUX RIVER, SIOUX FALLS, SD
BLUE RIVER BASIN, KANSAS CITY, MO
BRUNSWICK HARBOR, GA
BUFORD - TRENTON IRRIGATION DISTRICT LAND ACQUISITION, ND
CANAVERAL HARBOR, FL
CHESAPEAKE BAY OYSTER RECOVERY, MD & VA
CHEYENNE RIVER SIOUX TRIBE, LOWER BRULE SIOUX, SD
DELAWARE COAST, CAPE HENLOPEN TO FENWICK ISLAND, DE
DELAWARE COAST, REHOBOTH BEACH TO DEWEY BEACH, DE
DES PLAINES RIVER, IL
INNER HARBOR NAVIGATION CANAL LOCK, LA
KENTUCKY LOCK AND DAM, TENNESSEE RIVER, KY
LAROSE TO GOLDEN MEADOW, LA (HURRICANE PROTECTION)
LEVISA AND TUG FORKS AND UPPER CUMBERLAND RVR, WV, VA & KY
LITTLE CALUMET RIVER, IN
MCCOOK AND THORNTON RESERVOIRS, IL
MIAMI HARBOR CHANNEL, FL
MISSOURI NATIONAL RECREATIONAL RIVER, NE & SD
MISSOURI RIVER LEVEE SYSTEM, IA, NE, KS & MO
MOBILE HARBOR, AL
NEW ORLEANS TO VENICE, LA (HURRICANE PROT)
NOME HARBOR IMPROVEMENTS, AK
OATES CREEK, RICHMOND COUNTY, GA (DEF CORR)
OHIO RIVER GREENWAY PUBLIC ACCESS, IN
OZARK-JETA TAYLOR POWERHOUSE, AR (MAJOR REHAB)
RARITAN RIVER BASIN, GREEN BROOK SUB-BASIN, NJ
SACRAMENTO RIVER BANK PROTECTION PROJECT, CA
SAND POINT HARBOR, AK
ST PAUL HARBOR, AK
UPPER ST JOHN'S
WHITNEY LAKE POWERHOUSE, TX (MAJOR REHAB)

Appropriation Title: Operation and Maintenance, General – Fiscal Year 2006

Department of the Army, Corps of Engineers – CIVIL

OPERATION AND MAINTENANCE, GENERAL

Project Name	FY 2005 Appropriation	FY 2006 Program	05-06 Increase (Decrease)
Aquatic Nuisance Control Research	3,500,000	690,000	-2,810,000
Coastal Inlet Research Program	2,675,000	2,475,000	-200,000
Cultural Resources (NAGPRA/Curation)	1,391,000	1,391,000	0
Dredge Wheeler Ready Reserve	8,000,000	8,000,000	0
Dredging Data And Lock Performance Monitoring System	1,062,000	1,062,000	0
Dredging Operations And Environmental Research (DOER)	6,080,000	6,080,000	0
Dredging Operations Technical Support Program (DOTS)	1,468,000	1,391,000	-77,000
Earthquake Hazards Reduction Program	270,000	270,000	0
Facility Protection	12,000,000	12,000,000	0
Great Lakes Sediment Transport Models	950,000	900,000	-50,000
Harbor Maintenance Fee Data Collection	608,000	608,000	0
Inland Waterway Navigation Charts	3,708,000	3,708,000	0
Long Term Option Assessment For Low Use Navigation	0	1,500,000	1,500,000
Monitoring Of Completed Navigation Projects	1,575,000	1,575,000	0
National Dam Safety Program	250,000	250,000	0
National Dam Security Program	31,000	31,000	0
National Emergency Preparedness Program (NEPP)	5,000,000	5,000,000	0
National Lewis And Clark Commemoration Coordination	319,000	319,000	0
Performance Based Budgeting Support Program	734,000	2,540,000	1,806,000
Program Development Technical Support (ABS-P2)	250,000	250,000	0
Protect, Clear And Straighten Channels (Sec. 3)	45,000	45,000	0
Recreation Management Support Program (RMSP)	1,600,000	1,600,000	0
Regional Sediment Management Demonstration Program	2,500,000	1,391,000	-1,109,000
Reliability Models Program For Major Rehab.	608,000	608,000	0
Removal Of Sunken Vessels	675,000	500,000	-175,000
Reserve For Key Emergency Maintenance/Repairs	0	20,000,000	20,000,000
Water Operations Technical Support (WOTS)	653,000	653,000	0
Waterborne Commerce Statistics	4,271,000	4,271,000	0
Total Remaining Items	**60,223,000**	**79,108,000**	**18,885,000**

Appropriation Title: Operation and Maintenance, General – Fiscal Year 2006

Aquatic Nuisance Control Research

SUMMARIZED FINANCIAL DATA**:**

Estimated Annual Cost of Continuing Program	$3,500,000
Appropriation for FY 2005	3,500,000
Allocation Requested for FY 2006	**690,000**
Decrease of FY 2006 from FY 2005	$2,810,000

AUTHORIZATION: The Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (PL 101-646).

JUSTIFICATION: The Aquatic Nuisance Species Research Program (ANSRP) is an expansion of the Aquatic Nuisance Control Research Program (ANCRP) … formally known as the Zebra Mussel Research Program (ZMRP). This expanded program will address all invasive species except aquatic plants. Invasive species cost the public over $137 billion annually. The Corps is responsible for the construction, operation, and maintenance of navigable waters and the resources associated with them. Zebra mussels alone cost the public over $1B annually. The zebra mussel (Dreissena polymorpha), first reported in the United States in 1988, was accidentally introduced from Northern Europe via ballast water from ocean-going vessels. It is now estimated that over 100 nuisance species are introduced into U.S. waters annually … which can impact facility operations and threaten valued natural resources. Methods of prevention and more effective, inexpensive methods of control of invasive species must be developed to prevent impacts to public facilities and protect valuable natural resources.

Research efforts have been expanded under the ANSRP to address all invasive aquatic species that impact the nations' waterways infrastructure and associated resources. Methods for prevention, control, and restoration of natural resources will be developed. Prevention methodology focusing on dispersal barrier technology will be investigated. The development of strategies to apply control methods involves engineering design, operations, and maintenance of facilities and structures. Control strategies are being developed for (a) navigation structures; (b) hydropower and other utilities; (c) vessels and dredges; and (d) water treatment, irrigation, and other water control structures. Methods to reduce invasive species impacts to threatened and endangered species and restore natural habitat will be investigated. Due to the introduction of the Northern Snakehead Fish and West Nile Virus, the Corps has experienced a significant increase in the number of field assistance requests at our operating projects. Numerous dredged material disposal areas in the Atlantic, Gulf coast and Great Lakes region have mosquito abatement programs. Due to the introduction of the West Nile Virus, local communities want greater assurances that mosquito populations at our disposal sites are controlled to the maximum extent practicable. Following introduction of the Northern Snakehead Fish, a number of Corps reservoir projects have had to take interdiction measures to prevent their introduction.

PROPOSED ACTIVITIES FOR FY 2006**:**

1. Provide expanded biological/ecological document for monitoring and control of invasive species in marine and estuarine environments to include North Atlantic, South Atlantic, Gulf of Mexico, Pacific NW and Alaska, and Pacific Southeast and Pacific Ocean.
2. Implement a Risk-based framework to guide critical aspects of ANS management, e.g., early spread, prevention, economic and ecological impacts, human health and eco-terrorism concerns
3. Provide guidance related to the prevention and control of red tides
4. Revise hybrid internet/computer-based ANS information system based on user comments and field demonstrations
5. Provide guidance to evaluate comparative susceptibility of different habitats, ecosystem components, and man-made facilities to aquatic nuisance species infestation with recommended control methods.
6. Provide guidance for long-term management and control of silver and bighead carp in large river field studies

7. Provide guidance on the best natural and constructed barriers (hydraulic, acoustic, electrical and bubble) for fish containment
8. Evaluation of population genetics as a mechanism for tracing aquatic invasive species invasion.
9. Develop risk assessment models for species of concern
10. Develop standardized protocols for assessment technologies for in-country and new ANS species

ACCOMPLISHMENTS IN 2005**:**

1. Evaluate new methods for the prediction, prevention and control of the red tide.
2. Develop decision-making ANS assessment technologies to determine threat, early detection, monitoring strategies, management protocols, and exclusion protocols.
3. Evaluate the effectiveness of natural and constructed (hydraulic, acoustic, electrical and bubble) barriers on fish containment.
4. Provide early guidance needed to develop long-term management and control strategies for silver and bighead carp in big river field studies
5. Provide hybrid internet/computer-based information system that will allow users easy access to detailed/summary information on numerous ANS species.
6. Provided guidance related to the economic consequences of introducing Aquatic Nuisance Species into uninfested areas.
7. Provide resource for biology, ecology, and potential pathways of entry of aquatic nuisance species in marine and estuarine environments.

Appropriation Title: Operation and Maintenance, General – Fiscal Year 2006

Coastal Inlets Research Program

SUMMARIZED FINANCIAL DATA:

Estimated Annual Cost of Continuing Program	$2,475,000
Appropriation for FY 2005	2,675,000
Allocation Requested for FY 2006	**2,475,000**
Increase of FY 2006 from FY 2005	0

AUTHORIZATION: This effort is necessary to provide quantitative predictive tools and data for reducing the cost of dredging of Federal navigation projects and for supporting national security efforts to protect waterways and ports.

JUSTIFICATION: Records demonstrate that the Corps will expend an estimated $8 to $10 billion over the next 25 years at the more than 150 tidal inlets with existing Federal navigation projects to maintain, modify, and create navigation channels and structures, and to mitigate damages to adjacent beaches. In addition, the national "2020" plan for deeper and wider channels to accommodate the next class of vessels brings great uncertainty in prediction of maintenance requirements. Political, engineering, and demographic factors may increase costs. Public sensitivity to current maintenance practices, where dredged material is placed in offshore disposal areas, may result in requirements for more nearshore placement of maintenance materials to benefit adjacent beaches. Inlets are the primary conduits for the transport of environmental constituents between bays and the open ocean, and the Corps may be constrained from performing present activities unless it can make accurate predictions of inlet response, and thus environmental response, to such activities. Reliable predictive modeling of inlet hydrodynamics and particulate transport will aid the Corps in assessing national priorities such as fate of contaminants and mines introduced in and around waterways and port entrances. This technology is being transferred to Corps Districts and non-federal organizations to apply at the local level.

The Coastal Inlets Research Program (CIRP) is a continuing program to increase Corps capabilities to cost-effectively design and maintain the more than 150 inlet projects that comprise the bulk of coastal operations and maintenance (O&M) expenditures. Because of their complex nature, the behavior of inlets is poorly understood. As a consequence, the Corps spends more of its O&M budget than necessary to maintain inlet projects. The CIRP studies functional aspects of inlets such as their short- and long-term behavior and their response to waves, tides, currents, and man-made changes, given their geologic structure on all coasts of the United States. As inlet behavior becomes better understood, sophisticated tools for management of inlets for navigation projects, such as models and empirical relationships, will become available. These new tools will lead to more efficient, cost-effective designs for reliable channels and low-maintenance jetties that will reduce O&M requirements and, consequently, costs. Predictive technology can be accessed to assess threats and plan actions in response to threats introduced in our inlets, coastal waterways, and ports.

PROPOSED ACTIVITIES FOR FY 2006:

1. In collaboration with several Corps Districts, validate the Inlet Modeling System (IMS) at several deep-draft navigation channels to predict storm-induced and long-term for sediment transport under waves and currents, including geomorphic constraints such as equilibrium volumes, equilibrium natural and dredged channel slopes, and critical shear stresses to bound the non-linear calculations. The IMS is based on CIRP's newly developed Morphodynamic Steering Module of coupled hydrodynamic models developed previously in the CIRP augmented with sediment transport. The CIRP's new three-dimensional model of channel hydrodynamics and sediment infilling will be emphasized.

2. Validate new sediment transport formulas developed in the CIRP through comparison with documented project performance, such as at Ocean City Inlet, MD; Fire Island Inlet, NY, Freeport Harbor, TX, Humboldt Bay, CA, Grays Harbor, WA, and Michigan City Harbor, IL.

3. Validate the barrier island breaching model developed in FY04-05 by comparison to data of breaching near Corps jetties such as at Grays Harbor, WA (1992) and Moriches Inlet, NY (1980). Port the breaching model to the IMS.

4. Begin research on sediment transport and fate of dredged material disposed in the nearshore for the purpose of nourishing the downdrift beaches.

5. Validate 3D model of navigation channel infilling, including possible burial of objects such as mines and the movement of mines introduced into channels.

6. Conduct major technical transfer workshops on the Atlantic, Pacific, Gulf, and Great Lakes coasts, including continuation of national annual tech-transfer workshop.

7. Perform physical and numerical modeling studies on innovative jetty and channel-control designs (jetty weirs, impoundment basins, jetty spurs, bendway weirs, etc.) to reduce dredging costs, improve bypassing, and improve navigation reliability at inlet entrance channels. Validate with field data collected at sites of concern to Corps Districts.

8. Extend the long-term morphology modeling system (Inlet Reservoir Model) newly developed in the CIRP to include the adjacent beaches, navigation channel, and flood shoal together with the ebb shoal. Validate and release the Version 2 of the model to the public.

9. Analyze field data at inlet jetties to understand the beach and jetty interaction through rip currents, developing a quantitative predictive method for rip current sediment transport. Update the Corps standard wave model to include improved representation of wave diffraction at structures.

ACCOMPLISHMENTS IN PRIOR YEARS:

In FY 2005 the following was accomplished:

1. Completed R&D and held a tech-transfer workshop (47 attendees) for the Morphology Steering Module in the SMS interface, allowing automated coupling of tidal circulation (ADCIRC, M2D), wave models (STWAVE), and sediment transport. The Morphology Steering Module plays a central role for integrated modeling for field use to calculate tidal circulation, waves (with wave-current interaction), and sediment transport at high resolution. This modeling system allows assessment of jetty modifications, channel infilling, and channel alignment for reduction of dredging and improved navigation safety. Successful evaluations were conducted at Shinnecock Inlet, NY; Grays Harbor, WA; Willapa Bay, WA; Ocean City Inlet, MD; Mouth of Colorado River, TX, and the Matagorda Ship Channel, TX.

2. Developed new sediment transport formulas that cover, in continuous fashion, rivers, inlets, nearshore, and offshore zone. Began introducing these formulas into CIRP's three-dimensional model of channel hydrodynamics and sediment infilling.

3. Extended the Reservoir Model for calculating volume change of inlet features such as ebb shoals and flood shoals, and validated the model at East Pass, FL; Ocean City Inlet, MD; and Shinnecock Inlet, NY. This technology allowed predictions to be made in support of Corps navigation projects that previously were beyond capability, accounting for the long-term (order of 100 years) evolution of inlets. Collaborated with the Regional Sediment Management Program in incorporating the Reservoir Model in its coastal modeling technology – Cascade.

4. Developed circulation models for all of the Great Lakes to validate CIRP technology for calculating wind-forced seiching. Collaborated with the Buffalo, Chicago, and Detroit Districts to validate the modeling system for the Great Lakes.

5. Developed and verified a numerical model to predict scour for regions characterized by local flow curvature, flow separation, entrainment, and flow interaction with inlet structures. Applied to Matagorda Ship Channel, TX; Ventura Harbor, CA; and Shinnecock Inlet, NY. Model was released to public through the worldwide web.

5. Updated web-based tutorial and handbook on coastal inlets called “Inlets Online” that addresses needs from the professional engineering and science level to college and high school education. Aerial photograph collection includes historic (from 1930’s) to most recently acquired aerial photography around the Corps.

6. Developed a neural-network based data-gap filling utility with predictive capability in support of field measurement and long-term simulations of water level and current. Extended the neural network to regional level in an example at Long Island, NY, inlets.

7. Supported Corps Districts in addressing concerns on national applicability at specific inlets. These included implementation of a new jetty termination concept at Grays Harbor, WA; sand management prediction at Shinnecock Inlet, NY, for which periodic mining of the flood shoal was demonstrated to be a competitive and favorable alternative for the total inlet sediment system; Ocean City Inlet, MD, involving channel deepening, jetty rehabilitation, and sand bypassing to Assateague Island (National Park Service); and modification of deposition basin design with weir jetty at Mouth of Colorado River, TX.

Appropriation Title: Operation and Maintenance, General – Fiscal Year 2006

Cultural Resources (NAGPRA/Curation)

SUMMARIZED FINANCIAL DATA:

Estimated Total (FY 1994 - 2010) Program cost	$44,000,000
Appropriation for FY 2005	1,391,000
Allocation Requested for FY 2006	**1,391,000**
Increase of FY 2006 from FY 2005	0

AUTHORIZATION: The Native American Graves Protection and Repatriation Act (NAGPRA) enacted on 16 November 1990 contains data gathering, reporting, consultation, and permitting provisions that have near-term and long-term implications for Civil Works programs and projects.

JUSTIFICATION: The Native American Graves Protection and Repatriation Act (NAGPRA) is a complex piece of legislation that addresses the recovery, treatment, and repatriation of Native American and Native Hawaiian cultural items by Federal agencies and museums. As defined by the Act, cultural items are human remains, associated funerary objects, unassociated funerary objects, sacred objects, and objects of cultural patrimony. In FY 1994, the Corps began the process of inventorying human remains and associated funerary objects and completing summaries as mandated by the legislation. In addition, the Corps has been responsible for curation of cultural resource materials collected from its water resources development projects. A Mandatory Center of Expertise (MCX), located at the St. Louis District, has been established to provide overall management of the Corps NAGPRA programs and will serve as an information source and a centralized base for curation compliance and contracting. The MCX will facilitate the assurance of consistent nationwide program implementation and operation. In addition, the Corps is responsible for the curation of 46,255 cubic feet of artifacts collected from its water resources development projects and 3,511 linear feet of associated records. Curation of these materials, the largest volume of all federal agencies responsible for this activity, is required by a number of public laws. Corps collections represent over 80 percent of the total DoD collections. These extensive collections are located at a variety of curation facilities across the nation. The costs are to accomplish NAGPRA work and to fund MCX curation support to the districts. The MCX, in providing NAGPRA inventories, will assist in establishing the extent of Corps holdings. Associated with efforts to complete NAGPRA, the MCX is beginning the process of effectively managing the Corps curation efforts.

PROPOSED ACTIVITIES FOR FY 2006: The MCX and certain Corps field offices will continue the process of inventorying Native American and Native Hawaiian human remains and associated funerary objects and complete summaries of unassociated funerary objects, sacred objects, and objects of cultural patrimony as mandated by the legislation. Information will be made available to interested individuals and groups through notices in the Federal Register. Through MCX provided funding, districts will continue to be engaged in formal consultation with tribes and organizations for the legislated purpose of repatriating cultural objects for which there are legitimate claims. The MCX will continue to fulfill its chartered activities in support of other military services and DoD, as well as serving in the pivotal role of assisting in the development and implementation of an agency-wide, long-term plan for the curation of USACE archeological collections (heritage assets). The MCX will also continue to work closely with USACE commands on the implementation of final guidelines and procedures for field collection of archeological materials and the long-term treatment of those collections. In this regard, the MCX will act as a source of expertise for processing and rehabilitation of USACE collections. Finally, the MCX will provide leadership in the development of a training curriculum on the treatment of heritage assets and working in consultation with all stakeholders, take initial steps to make this training available to USACE and other appropriate DoD managers and decision makers.

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ACCOMPLISHMENTS IN PRIOR YEARS: A Mandatory Center of Expertise (MCX), located at the St. Louis District, was established to provide overall management of the Corps NAGPRA programs and has served as an information source, a centralized base for curation compliance and contracting. The MCX has facilitated the assurance of consistent nationwide program implementation and operation. The MCX, in providing NAGPRA inventories, has assisted in establishing the extent of Corps holdings. Associated with efforts to complete NAGPRA, the MCX began the process of effectively managing the Corps curation efforts.

Appropriation Title: Operation and Maintenance, General – Fiscal Year 2006

Dredge Wheeler Ready Reserve

SUMMARIZED FINANCIAL DATA:

Estimated Annual Cost of Continuing Program	$8,000,000
Appropriation for FY 2005	8,000,000
Allocation Requested for FY 2006	**8,000,000**
Increase of FY 2006 over FY 2005	0

AUTHORIZATION: Section 237 of the Water Resources Development Act of 1996 (WRDA 96) contained a provision requiring the Corps hopper dredge WHEELER to be placed in a ready reserve status.

JUSTIFICATION: Section 237 requires that no individual project funds may be used to fund the dredge in its ready reserve status unless the dredge is specifically used in conjunction with a project. Prior to Fiscal Year (FY) 1998, the costs for operation of the WHEELER had been reimbursed from project funds from the Operation and Maintenance, General appropriation, and subsequently charged to the Harbor Maintenance Trust Fund account as eligible navigation costs subject to reimbursement. In FY 1998, the WHEELER was placed in a ready reserve status as required by the above referenced section of WRDA 96.

PROPOSED ACTIVITIES FOR FY 2006: The hopper dredge WHEELER, will remain in ready reserve status, and will be required to be able to perform emergency dredging work, but will not be assigned any scheduled hopper dredging work. The dredge will be placed in an active status in order to perform work in those instances when private industry fails to submit a responsive or responsible bid for advertised dredging, or where industry has failed to perform under an existing contract.

ACCOMPLISHMENTS IN PRIOR YEARS: The WHEELER was kept at the dock, with sufficient crew to respond to any unforeseen requirement within 72 hours and to work for approximately three continuous weeks. The dredge was maintained in a fully operational state and periodically performed routine dredging operations to test equipment and keep the crew trained and prepared. The WHEELER performed approximately 66 days of training during the year. In every year but one, since being placed in ready reserve status, the WHEELER was called out to perform urgent dredging to assist industry dredges in restoring navigation channels and waterways.

Appropriation Title: Operation and Maintenance, General – Fiscal Year 2006

Dredging Data and Lock Performance Monitoring System

SUMMARIZED FINANCIAL DATA:

Estimated Annual Cost for Continuing Program	$1,595,000
Appropriation for FY 2005	1,062,000
Allocation Requested for FY 2006	**1,062,000**
Increase of FY 2006 over FY 2005	0

AUTHORIZATION: These efforts are necessary to provide dredging and lock data for efficient management of Congressionally authorized navigation projects, as well as to respond to specific public laws, including PL 96-269 (Minimum Dredge Fleet), PL 100-656 (Small Business Set-Aside), for meeting the Government Paperwork Elimination Act (GPEA) and Clinger-Cohen/IT Management Reform Act.

JUSTIFICATION:

a. **Dredging Data and Lock Performance Monitoring System:** The dredging and lock data collection and processing programs provide information for the Corps operational and strategic management decisions; for performance indicators of the navigation projects and programs; and input for improvement studies in direct support to the Navigation Business Line mission. Information includes Corps performed and contracted dredging (location, quantity, cost etc.); all lock activities (barges and commodities served, chamber unavailability, processing times, delays etc.), and physical descriptions of all the Corps owned/operated locks. The funds support the database management, operation, enhancement, quality control, user assistance, training, compliance with security requirements and CEEIS services. Both systems are the sole source of dredging lock data/information for the Corps, Federal government and industry. These databases are transactional systems within the Corps centralized Operations and Maintenance corporate information system. They are reported under OMBIL-Plus in ITIPS and the OMB 300b submittal accounting for $700,000 of the overall OMBIL-Plus costs.

b. **Future National Dredging and Port Requirements.** Technological change in the shipping industry is a continual process requiring ongoing analytical efforts to estimate the nation's future maintenance dredging needs. Update of current and future vessel characteristics, channel dimensions, and commodity origins-destinations and other cargo data is needed to support the Corps maintenance dredging program. Tasks include updating of the world fleet composition and forecasts; analysis of current and projected commodity and traffic flows and trade patterns; and the collection and associated analysis of dredging information and performance data in support of CW navigation decisions.

PROPOSED ACTIVITIES FOR FY 2006: Continue on-going Lock and Dredging information system operations, maintenance, essential upgrades, security and user support; develop and finalize data warehouse reports; and work with the National Lock Data "Product Delivery Team" overseeing Corps lock data requirements. Update forecasts for world fleet, commodities and trade; develop voyage ports-of-call information for containerships; assess vessels transiting U.S. ports; and physically model vessel motion to assess and minimize future dredging requirements. Provide dredging and lock analytical, technical, and data support for Corps offices.

ACCOMPLISHMENTS IN PRIOR YEARS: Performed operations, maintenance, system upgrades, security and user support for dredging and lock data systems. Provided critical data for the assessment of dredge bidding competition, national and regional trends in dredging costs and quantity, the annual small business reports for SADBU, and lock availability and performance. The Dredging Needs Database was updated. Conducted in-depth review of Dredging Information System and implemented changes in response to the GAO study of benefits and effects of the Corps dredge fleet.

Appropriation Title: Operation and Maintenance, General – Fiscal Year 2006

Dredging Operations and Environmental Research (DOER) Program

SUMMARIZED FINANCIAL DATA:

Estimated Annual Cost of Continuing Program	$6,080,000
Appropriation for FY 2005	6,080,000
Allocation Requested for FY 2006	**6,080,000**
Increase of FY 2006 from FY 2005	0

AUTHORIZATION: The Water Resources Development Acts of 1986, 1988, 1990, 1992, 1996, and 1999 contained provisions addressing contaminated sediments in navigation channels, dredged material management, and beneficial uses that mandates a continuing need for innovative and enhanced technology.

JUSTIFICATION: The last comprehensive research effort on contaminated sediments and dredged material management was completed in 1978 under PL 91-611. More recent Water Resources Development Acts contained provisions addressing contaminated sediments in navigation channels, dredged material management, and beneficial uses that mandates a continuing need for innovative and enhanced technology. Contaminant detection limits are now so low that sub-trace levels of toxic substances are identified. High profile contaminants continue to plague numerous Federal and permitted dredging projects. Traditional upland disposal areas have reached or are reaching capacity and are becoming scarce. Aquatic placement is under increased scrutiny due to habitat degradation concerns and increased listing of aquatic threatened and endangered species with pressure to end this economically preferable alternative resulting in increased litigation with correspondingly increased costs. Environmental standards and controls for all dredged material placement alternatives are more restrictive and will grow in number. Risk-based assessments and management will dominate; unfortunately the Corps' corporate technology base is diminishing and must be maintained. Beneficial use/reuse of dredged material is a priority and environmental resource protection is a mandate, however costs are increasing due to the constraints noted above. The continued economic viability and national defense of the Nation will depend upon our ability to remove, manage and beneficially reuse dredged material in a cost-effective and environmentally responsible manner. Continued engineering and environmental innovation will be essential to keep costs within budget constraints.

The DOER Program is an integral and highly beneficial component of the Corps navigation dredging and environmental protection missions. Dredging and disposal must be accomplished within a climate of increased dredging workload, fewer placement sites, environmental constraints, and decreasing fiscal and manpower resources. Balancing environmental protection with critical economic needs while accomplishing dredging activities is a major challenge. The program has validated innovative technologies for high profile contaminants and developed risk based assessments that will significantly reduce testing costs at virtually all harbors. Methods for reclamation and reuse of contaminated sediments from upland disposal areas for beneficial purposes as well as increased capacity are key components of the program that will result in tremendous savings.

Major focus areas of DOER include, (1) innovative technologies research, (2) environmental resource protection, (3) dredged material management, and (4) risk research.

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PROPOSED ACTIVITIES FOR FY 2006:

1**. Innovative Technologies**: Initiate cooperative demonstrations for specialized dredges for contaminated sediments; demonstrate innovative placements and rehandling for beneficial uses of dredged material; demonstrate geotextile container performance; evaluate lessons learned from Silent Inspector demos; field trial decision support system; and implement navigable depth measurement technology.

2. **Environmental Resource Protection**: Continue research on effective engineering and construction alternatives for protection of high priority threatened and endangered species, e.g., sturgeon, least tern, salmon, and sea turtles. Complete habitat protection activities for submerged aquatic vegetation and initiate work on intertidal sand flat and mudflat restoration. Complete environmental windows best management practices for protection of environmental resources.

3. **Dredged Material Management**: Completing activities on Geographic Information Systems (GIS) based dredged material management tools and initiate development of integrated tool for assessing regional water quality impacts. Continue testing and evaluation guidance for assessing aquatic placement site stability. Complete phyto-engineering technology for confined disposal facility (CDF) reclamation.

4. **Risk**: Initiate work on contaminant losses during dredging, due to bioturbation and leaching. Initiate assessment of contaminant effects and risk to threatened and endangered species. Complete risk based screening procedures for evaluating CDF pathways. Complete the application of structured Decision Analysis for Dredged Material Management.

ACCOMPLISHMENTS IN PRIOR YEARS: In FY 2005, the DOER Program successfully completed all of the project requirements and completed the following products:

1. **Innovative Technologies**: Identified, demonstrated, and evaluated emerging dredging, placement and other technologies such as: a) Punaise Demo, b) specialized dredges for contaminated sediment removal, c) confined disposal facility reclamation, d) Silent Inspector for cutter suction and dustpan dredges, e) Dredging Operations Decision Support System and, f) fluid mud quantification establish navigable depth.

2. **Environmental Resource Protection**: Developed effective engineering and construction alternatives to protect environmental resources while allowing dredging operations to proceed in an economically feasible manner. Emphasis was placed on the endangered river sturgeon and salmonid protection, habitat protection from sedimentation and blasting, measures to reduce need for environmental windows.

3. **Dredged Material Management**: Developed and validated numerical models, software tools for environmentally and cost effective operations and to address regulatory, habit and beneficial uses of dredged material. Special emphasis was placed on GIS based dredged material management, dredging and placement site dispersion models, contaminant exposure models for confined disposal areas, and beneficial uses testing, evaluation and database guidance.

4. **Risk**: Developed quantitative methods and tools to support risk analysis of the environmental and economic benefits/cost associated with the full range of dredged material management options. Emphasis was placed on; trophic transfer of sediment contaminants, validation of chronic/sublethal bioassays, risk based screening for confined disposal facility contaminant pathways, improved effectiveness of aquatic capping, and treatment technologies for contaminated sediments.

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Dredging Operations Technical Support (DOTS) Program

SUMMARIZED FINANCIAL DATA:

Estimated Annual Cost of Continuing Program	$1,391,000
Appropriation for FY 2005	1,391,000
Allocation Requested for FY 2006	**1,391,000**
Increase of FY 2006 from FY 2005	0

AUTHORIZATION: These efforts are necessary to provide support for management of Federal navigation projects.

JUSTIFICATION: Maintenance of the nation's navigation projects requires compliance with numerous complex environmental statutes and Presidential Executive Orders. The Dredging Operations Technical Support (DOTS) Program fosters the "one-door-to-the-Corps" concept by providing comprehensive and interdisciplinary technology transfer, technology application, and training essential to all stakeholders involved in Corps navigational dredging projects. DOTS is managed within a centralized program to maximize cost effectiveness and expeditiously implement National policies, laws, and complex technical requirements on a consistent basis. The DOTS Program focuses on application of state-of-the-art technology and research results to field problems. Emerging environmental concerns as well as advances in scientific technology often cause uncertainty in administration of the Corps' navigational dredging program. The DOTS program's technology transfer function provides access to an extensive, up-to-date, consistent technology base and facilitates rapid, proactive responses to technical issues as they emerge. This fosters networking and solutions to common problems confronting the navigation dredging community. Short-term work efforts to address generic Corps-wide technical problems encountered during maintenance of navigable waterways and infrastructure are major features of the DOTS Program. Technology transfer and demonstration of new and emerging techniques with potentially high returns on investment for management of Corps navigation maintenance projects are also important DOTS activities. By disseminating knowledge of new research and development efforts to field offices constrained by staff reductions, the DOTS Program will continue to perform a critical technology transfer role in support of all O&M navigation projects.

PROPOSED ACTIVITIES FOR FY 2005: Renewed emphasis will be placed on effective transfer of technology developed by the Corps and others engaged in maintenance and management of navigation structures and navigable waterways. Typical technology transfer topics include: management of Confined Disposal Facilities; management of contaminated dredged material; application of innovative risk-based technologies to assess contaminated dredged material; maintenance of coastal inlets and adjacent shorelines; shoreline stabilization and river training methodologies; assessment and management protocols for beneficial uses of dredged material; channel realignments; protection of threatened or endangered species; equipment selection; operational measures for protection of Threatened and Endangered Species; rational application of environmental windows and alternative best management practices; lock and dam maintenance needs; channel and harbor maintenance activities; ship simulation applications; and numerical modeling methods for resolution of engineering and environmental issues. A trend for increasing need for technical responses, evidenced by consistent growth in requests submitted by field offices on an annual basis, coincides with expansion of DOTS to cover all navigation-related issues in addition to dredging and dredged material disposal.

Personnel turnover due to retirement and attrition within the Corps and other regulatory agencies has created a growing demand for training in diverse technological areas. DOTS-sponsored training of Corps staff and stakeholders who have regulatory authority over Corps navigation maintenance activities will convey the latest findings on environmental and engineering techniques associated with maintaining navigable waterways. Training topics include dredging and dredged material disposal; coastal and inland channel maintenance needs; water quality and

related aquatic environmental issues; new and emerging techniques for accurate determination of compliance with environmental protection statutes regarding management of dredged material and other features of navigation projects; development and preparation of manuals jointly with the EPA that implement the inland and ocean disposal programs; and short-term work efforts to address generic Corps-wide technical dredging and dredged material management problems related to navigation projects.

DOTS will continue to fill a void with respect to outreach, providing a broad spectrum of educational materials related to the Corps' navigation mission. Relying on internet resources, this activity has rapidly become an extremely effective means of conveying comprehensive, accurate information to a broad audience, including students, educators, and the general public as well as professionals.

ACCOMPLISHMENTS IN PRIOR YEARS: In FY 2004, the DOTS program successfully met all of its goals established for technical support, technology transfer, and outreach. Technical questions, from Federal and state agencies and private concerns dealing with implementation of the inland and ocean testing manuals, continued to be addressed. As mandated by the 1972 London Convention, the DOTS program reports ocean dumping activities to the EPA and the International Maritime Organization. The program has conducted 23 sediment management seminars since 1991 that have been attended by over 5,000 personnel from Corps districts, federal, state, and local agencies, industry, and environmental protection groups. Instruction focused on state-of-the-science techniques in regulating, testing, and managing dredged material. The program also continued to support communication among Corps field offices and numerous agencies engaged in development of regional strategies to promote assessment and protection of threatened and endangered species associated with navigation projects. Examples include extensive coordination and renewed effort to minimize take of sea turtles by hopper dredges, and involvement of the American Bird Conservancy in the search for resolution of conflicts between the conduct of navigation projects and Interior Least Tern populations. ,A joint Corps/EPA task force made significant progress toward formulation of a combined, generic ocean and inland disposal implementation manual. This effort fosters consistency in dredged material testing and management between the Clean Water and Marine Protection, Research and Sanctuaries Acts. This builds upon and serves as a companion to the completed final version of the Upland Testing Manual. Expansion, maintenance and updating of several web-based databases provided enhanced access to important sources of information, such as the Environmental Residue and Effects Database (ERED), which continued to be critical for successful implementation of the CE/EPA ocean and inland testing manuals for dredged material disposal. New databases that extend accessibility to related resources, including upland plant toxicology, and tools for risk assessment applications were brought online and refined.

The DOTS Program continues to be an exceptionally successful conduit for navigation and dredging-related information, as evidenced by the distribution of thousands of technical manuals, bulletins, technical notes and reports currently found on the DOTS website (www.wes.army.mil/el/dots). The DOTS website provides a comprehensive information retrieval system for all relevant products related to regulating, maintaining, and managing the nation's navigable waterways. For example, the DOTS-sponsored Educational Outreach site (http://education.wes.army.mil) has become the most active of all Corps websites, visited by over three million users in its first year of operation, with continued growth (currently over 13,000 visits per day) expected.

Appropriation Title: Operation and Maintenance, General – Fiscal Year 2006

Earthquake Hazards Reduction Program

SUMMARIZED FINANCIAL DATA:

Estimated Annual Cost of Continuing Program	$280,000
Allocation for FY 2005	270,000
Allocation Requested for FY 2006	**270,000**
Decrease in FY 2006 from FY 2005	0

AUTHORIZATION: This program is being conducted under the authority of PL 101-614, November 1990, National Earthquake Hazards Reduction Program Re-authorization Act and individual project authorizations for maintaining safety of personnel and emergency response capability.

JUSTIFICATION: The purpose of this program is to respond to the requirements of PL 101-614, National Earthquake Hazards Reduction Program (NEHRP) and Executive Order (EO) 12941, Seismic Safety of Existing Federal Buildings. The EO directs all Federal departments and agencies to develop an inventory of their owned and leased buildings and an estimate of the cost of mitigating unacceptable seismic risks in their buildings. The objective of PL 101-614 is to establish and initiate for buildings and lifelines a systematic approach to reducing loss of life, injuries, and economic costs resulting from earthquakes in the United States. Lifelines are defined as public works and utility systems.

PROPOSED ACTIVITIES FOR FY 2006:

Continue the development of mitigation program options to meet the executive order requirements and the legal opinion concerns, refine or develop technical seismic building evaluation criteria, develop and refine programmatic seismic criteria, develop guidance for the seismic evaluation and risk mitigation of lifeline facilities, and the development of building and powerhouse mitigation plan options, improve information transfer by use of videoconference calls and development of a seismic web site, and develop reports on selected study items.

1. Identify areas of potential cost savings in the evaluation, design, and implementation of seismic safety standards and develop strategies to investigate, validate and implement modified procedures to achieve this cost savings. This includes, but is not limited to preparation of sample plans, development of simplified tools that improve the understanding of the codes and standards used in seismic design and rehabilitation for designers, construction, and operations personnel.

2. Continue maintenance and updating of the USACE database of seismic evaluation and vulnerability assessments of buildings and powerhouse superstructures.

3. Continue maintenance and updating of USACE intranet website to provide state of the art information exchange in a changing field, designed for multi-discipline seismic concerns.

4. Develop and facilitate technology transfer of current seismic standards and recent developments in the state of the art to MSC's and projects. The tools and methodology emphasize fiscally prudent decisions that improve the safety of USACE personnel and the public during and after an earthquake. This includes continued development of mitigation program options to meet the executive order requirements and the legal opinion concerning potential owner liability.

5. Maintain technical expertise and provide support to HQUSACE in the Interagency Committee on Seismic Safety in Construction activities, selected code development activities, and interagency coordination.

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ACCOMPLISHMENTS IN PRIOR YEARS: In FY 04 and FY 05,

1. Completed implementation of the internet resurvey data and seismic code changes to the database of buildings and powerhouses. This included implementation of a risk based prioritization system and improved report generation facilities. This activity was intended in part to prepare USACE to address requests or activities required by Congress in response to the FEMA 360 report, for our own internal use, and to track mitigations that had been accomplished.

2. Implemented criteria changes that provided significant seismic safety improvement, for USACE owned facilities, but are fiscally responsible considering the USACE building inventory, available information, and potential cost of investigations. An example was establishing guidelines for geotechnical investigations for existing buildings that did not exceed the requirement for new construction, and provided a reasonable level of assurance in terms of performance. When this can be implemented, there is the potential savings of $20,000 to $50,000 per building.

3. Implemented a suite of tools that could be used to improve procurement processes to include seismic considerations appropriately, but at little additional cost.

These tools include but are not limited to a revised benchmark year table, a document on the implementation of the table, a relative seismic hazard map, a changes in seismicity document, evaluation checklists, and multi-discipline documents to clarify complex issues.

4. Provided technology outreach in the form of presentations and teleconferences with all Districts invited to participate.

SELECTED ACCOMPLISHMENTS FROM PRIOR YEARS:

1. Developed a suite of tools and implementation recommendations for use and testing by Districts and Projects. The intent of the tools is to provide consistency and improve efficiency of the design, construction and operations decision-making and implementation of seismic considerations in USACE owned projects. Issues to be studies had a direct impact on the costs to operations and the product delivered to operations.

2. Over 12,000 owned buildings and powerhouses were inventoried (the data collected and recorded), seismic screenings of over 700 buildings in all seismic regions, seismic evaluations were performed on over 200 buildings and powerhouses in various geographic regions primarily in high and moderate seismic regions, development of reports for FEMA to be forwarded to Congress on both buildings and powerhouses.

3. Developed seismic evaluation guidance for buildings and lifelines including building evaluation criteria, powerhouse evaluation criteria, lifeline criteria for intake towers, navigation locks, and powerhouses, two seismic evaluation seminars for district personnel, technical support to the districts in accomplishing the evaluations, over 30 rehabilitation case studies including seismic mitigation cost estimates (rehabilitation, replacement, or demolition) for buildings, and over 25 rehabilitation cost estimate studies for structural or nonstructural powerhouse deficiencies.

4. Developed the input to the USACE portion of the original FEMA 360 report to Congress.

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Facility Protection

SUMMARIZED FINANCIAL DATA:

Estimated Annual Cost of Continuing Program	$ 12,000,000
Allocation for FY 2004	13,000,000
Appropriation for FY 2005	12,000,000
Allocation Requested for FY 2006	**12,000,000**
Increase of FY 2006 Over FY 2005	0

AUTHORIZATION: PL 84-99; PL 93-288; Executive Orders 10480 and 12656 which cite several acts including PL 93-288, the basis for the Federal Response Plan; and Executive Order 13228 which provides for Agency responsibilities regarding Homeland Security.

JUSTIFICATION: In response to the attacks of September 11, 2001, the Corps compiled a list of critical public assets in accordance with Presidential Decision Directive number 63. In 2001, the Corps initiated vulnerability assessments (RAM-D) of critical water resources infrastructure that are owned and operated by the US Army Corps of Engineers to determine vulnerability to terrorist attacks. The design and implementation of security improvements at Corps owned and operated water resources infrastructures was initiated in FY02 when Congress authorized and appropriated supplemental funding. Additional supplemental funding was appropriated in FY03. Congress authorized the use of Operations and Maintenance, General funding in FY04 to continue work on these security improvements along with additional funding under O&M Remaining Items to assess, design, and construct security improvements at -Corps administrative facilities and laboratories, Mississippi River and Tributaries (MR&T) projects, Research and Development (R&D) support, Corps Centers of Expertise support, and security guard requirements resulting from changes to the Nation's security levels. In FY05 the Corps initiated the development of a priority list of administration facilities and laboratories for vulnerability assessments and security improvements. The total estimate for development and implementation of facility security O&M activities in FY06 is $72 million. Of this amount $29 million is for project specific upgrades under Operations and Maintenance, General, $31M for recurring security costs (i.e. guards, monitoring, etc.), and $12 million is for this Remaining Item to cover protection of all non-project specific protective measures at administrative buildings and other general use facilities.

PROPOSED ACTIVITIES FOR FY 2006: The requested funds will be used to continue security upgrades at administrative facilities and laboratories (projects are protected with project specific funds), complete implementation of baseline security protection upgrades at MR&T facilities, and continue the development of common threat, vulnerability, and force protection standards for all Corps civil works assets.

Great Lakes Sediment Transport Models

SUMMARIZED FINANCIAL DATA:

Estimated Total Program Cost	$12,500,000
Appropriation for FY 2005	900,000
Allocation Requested for FY 2006	**900,000**
Increase from FY 2006 from FY 2005	0

AUTHORIZATION: Section 516(e), Water Resources Development Act of 1996, as amended by Section 334, Water Resources Development Act of 2000.

JUSTIFICATION: Under Section 516(e) of the Water Resources Development Act of 1996, the Corps is directed to develop sediment transport models for tributaries to the Great Lakes that discharge to Federal navigation channels or Areas of Concern (AOCs). These models are being developed to assist state and local resource agencies evaluating alternatives for soil conservation and nonpoint source pollution prevention in the tributary watersheds. The ultimate goal is to support state and local measures that will reduce the loading of sediments and pollutants to navigation channels and AOCs, and thereby reduce the costs for navigation maintenance and sediment remediation.

PROPOSED ACTITIVITIES FOR FY 2006: FY 2006 funds will be used to continue or complete development of models at ten tributaries (Burns Waterway, Indiana; Trail Creek, Indiana; Dead River, Michigan; Grand River, Michigan; St. Louis River, Minnesota; Ontonagon River, Michigan; River Raisin, Michigan; Cuyahoga River, Ohio; Sandusky River, Ohio; and, Grand River Ohio) and conduct scoping and coordination for future model development at the next set of priority tributaries (East River, Wisconsin; and, Oswego River, New York). Districts will provide limited, follow-up technical support to state and local partners that are using models developed under this program to reduce loadings of sediments and contaminants to Great Lakes tributaries, thereby reducing future dredging requirements at Federal navigation channels and promoting the restoration of beneficial uses at Great Lakes Areas of Concern.

ACCOMPLISHMENTS IN PRIOR YEARS: Model development has been completed at the following tributaries (Buffalo River, New York; Maumee River/Auglaize River, Ohio; Mill and Cascade Creeks, Pennsylvania; Saginaw River, Michigan; Nemadji River, Minnesota/Wisconsin; Menomonee River, Wisconsin; St. Joseph River, Michigan; Clinton River, Michigan; and, Grand Calumet River, Indiana). The model developed for the Nemadji River is being utilized by the county and NRCS to better manage forestry practices in the watershed to reduce soil and streambank erosion. The models of the Grand Calumet River and the Buffalo River are being used to support the State of Indiana and New York's development of Total Maximum Daily Loads (TMDLs) in the watersheds. The model of the Maumee River/Auglaize River yielded a recommendation for the funding of technical assistance from USDA to work directly with farmers in the basin to apply conservation practices in the areas that the model demonstrated to be effective and is being used by NRCS to prioritize conservation efforts. The models for the Menomonee River and Mill and Cascade Creeks are being used by local agencies to manage urban development and evaluate stream restoration projects. State and local partners have identified uses for models under development including design and placement of filter strips and other soil conservation measures, management of urban development and construction practices, streambank stabilization planning, and contaminated sediment cleanup evaluations.

In FY 2005, model development is being initiated or underway at eleven tributaries (Burns Waterway, Indiana; Trail Creek, Indiana; Dead River, Michigan; Grand River, Michigan; St. Louis River, Minnesota; Ontonagon River, Michigan; River Raisin, Michigan; Eighteen Mile Creek, New York; Cuyahoga River, Ohio; Sandusky River, Ohio; and, Grand River Ohio), and will be completed at three others (Genesee River, New York; Eighteenmile Creek, New York; and, Black River, Ohio).

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Inland Waterway Navigation Charts

SUMMARIZED FINANCIAL DATA:

Estimated Annual Cost of Continuing Program	$3,708,000
Appropriation for FY 2005	3,708,000
Allocation Requested for FY 2006	**3,708,000**
Increase in FY 2006 from FY 2005	0

AUTHORIZATION: PL 85-480, approved 2 July 1958, authorizes the Commander, USACE to publish information pamphlets, maps, brochures, and other material on river and harbor, flood control, and other civil works activities, including related public park and recreation facilities that may be of value to the general public.

JUSTIFICATION: This effort provides Corps' Electronic Navigational Chart (ENC) data for all inland waterways and other federal navigation channels maintained by the Corps to be used by commercial Electronic Chart Systems (ECS), which, when combined with the existing Differential Global Positioning System (DGPS), will improve the safety and efficiency of marine navigation in both inland and coastal waterways of the United States. On inland waterways, the Corps will collect more accurate survey and mapping data than is currently on its paper charts, and produce Inland Electronic Navigation Charts (IENCs) in accordance with navigation users and ECS vendors. When combined in the commercial ECS will greatly improve the safety and efficiency of navigation. This will allow safe navigation through bridge openings during fog and other bad weather conditions as well as during heavy traffic situations, and provide an accurate display for other systems such as radar and Automatic Identification Systems. The Corps will use the S-57 international data format, which is consistent with electronic chart products produced by the National Oceanic and Atmospheric Administration (NOAA), and the chart products produced by the two agencies will be coordinated for compatibility in adjoining areas. The Corps will also coordinate with the U.S. Coast Guard for aids to navigation information and collaboration on rules for chart carriage by waterway users. In coastal and Great Lakes areas, the Corps will produce standardized channel condition chart products that will provide consistent and reliable information to NOAA for chart updates, in accordance with Water Resources Development Act of 2000, Section 558. Similar channel chart products will be provided to navigation users, and these coastal and Great Lakes channel condition chart products will also follow the S-57 format. Such ENC development and publication activities are in accordance with National Transportation Safety Board recommendations to the Corps, and subsequent commitments made by the Chief of Engineers.

PROPOSED ACTIVITIES FOR FY 2006: Begin development of chart coverage for the Missouri, Monongahela, and Upper Tennessee Rivers – 1,095 river miles; complete development for Arkansas and Kanawha Rivers – 536 miles; update features for the Mississippi, Ohio, Red, Atchafalaya, Black Warrior-Tombigbee, Cumberland, Lower Tennessee, Ten-Tom, Illinois, Green, and Ouachita Rivers – 4,828 miles; complete development of channel framework for coastal and Great Lakes areas.

ACCOMPLISHMENTS IN FY 2005: New chart development – 1,601 river miles: Began or continued development of chart coverage for the Illinois, Cumberland, Lower Tennessee, and Arkansas Rivers; Chart revisions and updates – 2,600 river miles: Published updated chart cells for the Mississippi, Ohio, Red, and Atchafalaya Rivers. Compiled most of the coastal channel Framework.

Appropriation Title: Operation and Maintenance, General – Fiscal Year 2006

Long Term Option Assessment for Low Use Navigation

SUMMARIZED FINANCIAL DATA:

Estimated Study Cost	$1,500,000
Allocation Requested for FY 2006	1,500,000

AUTHORIZATION: Section 216, River and Harbor Act of 1970, PL 91-611, 84 Stat. 1830.

JUSTIFICATION: Federal channel and harbor projects have been characterized principally as either deep draft or shallow draft. In addition, Federal inland waterways segments have been characterized principally as either high-use or low-use, based on the level of commercial waterborne traffic on each segment. While channel and harbor projects with lower depth and inland waterways segments with lower levels of commercial traffic tend to have lower levels of economic activity, this way of characterizing projects is, at best, only a rough indicator of the return to the Nation from the investments required to operate and maintain the projects or segments. For example, a navigation project with lower commercial use may not require as much funding to operate and maintain and, therefore, may provide a significant net economic return.

Navigation projects with lower commercial use may contribute to the Nation in other important ways, such as by supporting commercial fishing, subsistence, or public transportation. In some cases they can provide a vital economic engine to local economies, especially in less populated areas, or serve as a harbor of refuge. As of yet, there is no objective means of determining how best to weigh such needs against those of the facilities that support higher levels of commercial traffic.

This study seeks to improve the methods for establishing priorities among navigation projects with lower levels of commercial use. It will identify the universe of Federal harbors and inland waterways segments that support lower levels of commercial use, classify these facilities based on the kinds of contributions that they make to the Nation, develop methods to quantify the differences in their attributes, and examine possible criteria for determining when a continued investment in operation and maintenance would provide a significant return to the Nation. The study also will formulate a range of possible long-term options for the funding and management of such facilities, evaluate the pros and cons of these options, and examine their applicability to the various types of low-use navigation facilities.

The study will not develop recommendations for specific projects. Such activities could be the subject of specific, follow-on studies.

PROPOSED ACTIVITY FOR FY 2006:

Identify the universe of Federal channel and harbor projects and inland waterway segments with relatively low levels of commercial traffic.

Identify differences among low commercial-use facilities in terms of their attributes, including types and levels of uses supported.

Develop practical methods to approximate the national economic development (NED) and other national benefits of low commercial-use harbor projects and waterway segments. Identify any needed improvements in ability to quantify benefits.

Develop and document methods to evaluate multiple attributes and types of benefits for purposes of determining when a continued investment in operation and maintenance would provide a significant return to the Nation.

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Formulate a range of practical long-term management options for low-use navigation facilities, including continued operation and maintenance at Federal expense, transfer of responsibility for operation and maintenance to another public entity or a private entity, and other alternative funding mechanisms.

Examine the pros and cons of such options with reference to recent experience on specific cases, and their applicability to the various types of low use facilities (based on attributes, types of benefits, etc.)

Complete a report documenting findings.

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Monitoring of Completed Navigation Projects

SUMMARIZED FINANCIAL DATA:

Estimated Five-Year (FY2005-2010) Program Cost	$10,000,000
Appropriation for FY 2005	1,575,000
Allocation Requested for FY 2006	**1,575,000**
Increase of FY 2006 over FY 2005	0

AUTHORIZATION: These efforts are essential in providing data for efficient and effective management of critically important Federal navigation projects from both economic and national security standpoints.

JUSTIFICATION: The Corps operates and maintains more than 800 navigation projects encompassing more than 25,000 miles of waterways. The Corps requires a national program to identify the best navigation project practices and use them to improve all navigation projects' performance. Optimizing projects' performance requires that they be monitored upon completion, evaluated against preconstruction projections and present needs, and the lessons learned translated into proactive management guidance for Corps Districts. Information gained from Monitoring Completed Navigation Projects (MCNP), including changes in sediment transport, water levels, currents, waves, flushing, river flows, structure deterioration, and other coastal and river hydraulic phenomena with associated environmental impacts, will be used to verify design expectations, determine benefits, and identify operational and maintenance efficiencies. Information collected from monitored navigation projects will significantly improve projects' performance and optimize opportunities for environmental enhancement. Information collected and analyzed on a national basis documents successful designs, disseminates lessons learned on projects with problems, and provides upgraded field guidance for solutions that will reduce life-cycle costs on a national scale.

Selective and intensive monitoring of Civil Works navigation projects is executed to acquire information to improve project purpose attainment, new design procedures, construction methods, and operation and maintenance (O&M) techniques. Both shallow- and deep-draft navigation projects located in ports, harbors, rivers, reservoirs, lakes, estuaries, and the coastal zone are included in this program. Projects that provide maximum cost savings are identified, and those that best address high-priority life-cycle O&M project cost savings are selected for monitoring and evaluation. Monitoring plans are developed jointly by Corps Districts and the US Army Engineer Research and Development Center (Coastal and Hydraulics Laboratory). The monitoring plans include optimization alternatives for either comprehensive detailed surveys to verify post-construction conditions on a one-time basis, or for repetitive collection of sensitive time-varying field data. The intensive data are analyzed and the results compared to the pre-construction predictions to verify or enhance existing design guidance for minimizing navigation project O&M cost, and for assuring realistic project benefits. The analyses include structural, topographic, bathymetric, and hydrodynamic responses, and inter-comparisons of projects when appropriate. Reductions in program funding in recent years have limited the initiation of new monitoring projects that have critical significance to both commercial navigation and military sealift. It is exceedingly important that these important monitoring efforts be enhanced to provide essential knowledge on which to base sound design and rehabilitation decisions in times of constrained budget priorities.

Coordination between the Corps and other Federal, state, and local agencies is essential for proper accomplishment of this program. In addition to satisfying Corps' requirements, the data are made available through publications and electronic technology transfer, and will be of great value to local, State, and other Federal agencies tasked with the development and implementation of regional and national coastal and inland navigation management policies. Results are communicated immediately to other member agencies of the Marine Transportation System (MTS).

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PROPOSED ACTIVITIES FOR FY 2006: Coastal and Hydraulic Engineering Technical Reports, Design Manuals, and Technical Notes will be published and disseminated to Corps Field Operating Activities immediately with improved, updated, and enhanced design guidance. A periodic inspection analysis will be conducted at St. Paul Harbor, AK, the only deep-water commercial fishing port in the Pribilof Islands of the eastern Bering Sea. Additionally, four other critically important new starts will be initiated. Since completion of the John Day Lock and Dam, Columbia River, OR, there have been numerous efforts to improve fish passage and water quality at the dam, including spillway flow deflectors to reduce dissolved gas levels and a fish spill disperser adjacent to the navigation lock. These fish passage improvements have negatively impacted navigation. The Portland District proposes to monitor impacts of flow deflectors and spillway operations on the tailrace environment affecting the navigation lock, from which results can be extrapolated to other similar projects. New Buffalo Harbor, IN, on the Great Lakes requires annual maintenance hydraulic dredging with placement on the south side of the harbor as nourishment. Over the years, a significant amount of material has become trapped within the north accretion fillet, resulting in increased shoaling at the entrance. The Detroit District proposes to monitor altered dredging activities so as to improve understanding of sediment transport processes around Great Lakes harbor structures, and to develop general design guidelines for sand-bypassing at harbors in high littoral transport regions. Results will be applicable to Great Lakes harbors as well as other locations around the nation. Indian River Inlet, DL, provides the only connection between the Ocean and the Inland Bays of Delaware. The inlet is experiencing three inter-related problems; (a) erosion of the interior channel banks, (b) erosion of the ocean beach north of the inlet, and (c) persistent, generalized channel scour. It is critical to determine at what point continued loss of the outer end of the north jetty will preclude navigability of the inlet, and to determine if there are engineering alternatives short of armoring the entire inlet bottom capable of stabilizing the inlet hydraulically. The Philadelphia District proposes to monitor Indian River Inlet to determine if new design concepts would be more effective in terms of jetty spacing, structural design, and channel dimensions to accommodate larger commercial and recreational vessels. Results would be immediately applicable to inlets and navigable channels that serve over 400 U.S. ports. There is a prevailing perception that quarrying frozen rock masses results in a greater number of structural failures of armor stone on navigation structures. Arbitrary cutoff dates for quarrying have been used in the past, beyond which warmer weather curing times were required. The Chicago District proposes to monitor factors that contribute to the deterioration of armor stone so that designers will have the opportunity to consider economics of stone types, quarrying seasons, various curing periods, and length of construction season to more effectively manage shrinking funds available for rehabilitation of rubble-mound stone breakwaters and jetties in all cold weather regions including Alaska.

ACCOMPLISHMENTS IN PRIOR YEARS: In FY 2005, a technical report regarding findings and conclusions of periodic inspections of the Crescent City Harbor, CA, breakwater was published. A periodic inspection of the Cleveland Harbor, OH, east breakwater was completed. These periodic data sets are presently being used to improve understanding of the design, construction, and maintenance of both existing and future dolose and rubble-mound structural projects, and will help avoid past design deficiencies that failed and/or resulted in high maintenance projects. A technical report providing results of monitoring hydrodynamic, sedimentation, structural, environmental, and geotechnical conditions at Tedious Creek Harbor, MD, was published. Additionally, a technical report providing results of monitoring coastal hydrodynamics, sediment transport, and structural conditions at Aguadilla Bay Harbor, Puerto Rico, was published. A technical report also was published on monitoring of riverine hydrodynamics and sediment transport processes for minimizing dredging at the upper Mississippi River training structures of Pool 13. Additional critical sites were selected for monitoring in this river region. A technical report regarding technology for reducing rubble-mound stone degradation and failure on Great Lakes harbors breakwaters and jetties was published. Monitoring of other navigation projects continued, including bendway weirs at the Greenville River Bridge reach of the Mississippi River to determine their navigation, sedimentation, and structural effectiveness. Ship motion data obtained for vessels in existing and improved reaches of the Houston Ship Channel continued to be analyzed and used to validate/enhance ship-to-ship interaction in simulation models. Monitoring continued regarding “pocket wave absorbers” used in the Great Lakes to reduce wave action in vertical, parallel-wall harbor entrances and mooring areas. Coastal and Hydraulic Engineering Technical Notes were published for each work unit in the MCNP program, thus providing interim results of the monitoring efforts. All monitored projects were previously nominated by Corps field offices for inclusion in this MCNP research program.

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National Dam Safety Program

SUMMARIZED FINANCIAL DATA:

Estimated Annual Cost for Continuing Program	$350,000
Appropriation for FY 2005	250,000
Allocation Requested for FY 2006	**250,000**
Increase of FY 2006 over FY 2005	0

AUTHORIZATION: Dam safety legislation PL 92-367 and PL 99-662, and the National Dam Safety Program Act (Section 215 of PL 104-303) and the Dam Safety and Security Act of 2002 (Public Law 107 – 310).

JUSTIFICATION: The *Federal Guidelines for Dam Safety* provides a framework for safe construction, operation, and maintenance of Corps dams. Dams in the United States must be constructed, operated, and maintained in accordance with sound engineering practices to prevent failure and avoid potential loss of life and destruction of property. The National Dam Safety Program (NDSP) was established to enhance national dam safety. These funds support the activities under the NDSP, in the interests of the Corps and the citizens of the Nation. The National Dam Safety Program Act strengthens the NDSP, whose purpose is to reduce risks to life and property from dam failure in the United States. The Act also codified the Interagency Committee of Dam Safety (ICODS) to coordinate the Federal actions under the National Dam Safety Program. The Chief, Engineering and Construction Division, Directorate of Civil Works (USACE, Dam Safety Officer), or his representative, represents the Department of Defense as a member of ICODS. The Corps also provides a representative to the National Dam Safety Review Board for the Secretary of Defense. The National Dam Safety Program Act expanded the scope of previous dam safety legislation and the requirements for ICODS participation with various states to improve dam safety in the United States. Through ICODS, the NDSP provides support in development of federal guidelines for dam safety, promotion of public awareness programs, publications, training materials, and workshops. The Act also provides for archival research that is supported by Federal dam owning agencies through ICODS and the National Performance of Dams Program. The Dam Safety and Security Act of 2002 extended the National Dam Safety Program Act appropriation authorization for another five years.

PROPOSED ACTIVITIES FOR FY 2006: The NDSP account provides effective coordination of dam safety activities across the various regions of the Corps and provides for Corps participation at national dam safety events. The account also provides for District participation on the National Dam Safety Management Team, which advises the Corps Dam Safety Officer on safety of dams policy. The NDSP supports Corps membership and participation in various national and international dams organizations including the Association of State Dam Safety Officials (ASDSO), the US Society on Dams (USSD) and the Dam Safety Interest Group (DSIG). The USSD along with its international counterpart, the International Committee on Large Dams (ICOLD) supports technical knowledge concerning the benefits, engineering, design, and construction of dams. The DSIG is an international group of dam owners involved in research and development of dam engineering. Participation with the DSIG allows the Corps to leverage Civil Works research and development funds. The NDSP account also provides funding for nation wide safety of dams prioritization studies and coordination of the portfolio risk assessments across the nation. The NDSP funds special briefings for Congressional interests on the safety of dams and the coordination of safety of dams with other federal agencies.

ACCOMPLISHMENTS IN PRIOR YEARS: The NDSP account provided Corps presentations at the United States Society of Dams (USSD) conference and the Association of State Dam Safety Officials (ASDSO) during FY04 and FY05. This account also supported the Corps response to the 9-11 events in the safety of dams area. The NDSP program account provided field participation in preparing responses to the

recommendations of the Corps Peer Review of the Dam Safety Program. Additional funds provide for continued development of the Dam Safety Program Management Tools (DSPMT) and the Dam Safety Program Performance Measures (DSPPM). Both programs are being developed along with the Interagency Committee on Dam Safety (ICODS) to improve both Federal and State safety of dams programs.

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National Dam Security Program

SUMMARIZED FINANCIAL DATA:

Estimated Annual Cost for Continuing Program	$50,000
Appropriation for FY 2005	31,000
Allocation Requested for FY 2006	**31,000**
Increase of FY 2006 over FY 2005	0

AUTHORIZATION: Executive Order 13010 - Critical Infrastructure Protection, and Presidential Decision Directives (PDD) 62 and 63 and the Dam Safety and Security Act of 2002 (Public Law 107 – 310).

JUSTIFICATION: The National infrastructure in the United States, including dams, is a potential target of terrorist threats. Additional security, training, and preparedness are required to guard against terrorist activity and to avoid potential catastrophic loss of life and destruction of property. In recognition of these increasing terrorist threats, the Critical Infrastructure Protection, and Presidential Decision Directives (PDD) 62 and 63 were issued. The Interagency Committee on Dam Safety (ICODS) identified terrorism as a major threat to dams in the United States. Of all the agency members of ICODS, the Department of Defense acting through the Corps has the most unique and in-depth knowledge in the area of antiterrorism program development and execution. This program uses the Army's experience in antiterrorism planning and building design as the basis for developing a program to safeguard Corps dams. Training under this program is designed for dam operators and field managers to improve their awareness of potential threats and to establish lines of communications to minimize damage if and when a threat occurs. The program will provides for exchanging information on threats received and the establishment of a database to review trends in the pattern of threats. Through coordination with ICODS and the Interagency Forum on Infrastructure Protection (IFIP), this program will assist in the development of interagency guidance related to the security of dams and appurtenances.

PROPOSED ACTIVITIES FOR FY 2006: The National Dam Security Program provides development and coordination of security systems for Corps infrastructure. The major element of this program is the Risk Analysis Methodology for Dams (RAM-D) program that provides the framework for the analysis of security risks at USACE dams and other infrastructure facilities. During FY05, the program will develop guidance for the periodic reevaluation of facilities. Providing periodic updates to security plans assists in the maintenance of dams and the environmental features associated with dams. The program also provides for training field personnel in the use of RAM-D when evaluating the status of current measures and supports developing security of dams training programs. The additional funding in FY 06 is to implement national level guidance and standard in accordance with the Department of Homeland Security Dam Sector Plan as part of the overall National Infrastructure Protection Plan. Future work will include the development of a periodic program for reassessing the security of dams to be coupled with other periodic inspections of Corps owned and operated dams.

ACCOMPLISHMENTS IN PRIOR YEARS: After the national 9-11 events, the National Security of Dams Program oversaw the completion of some 350 RAM-D evaluations of Corps dams. It provided assistance to various state dam regulators in developing state programs. The program developed a RAM-D training course in conjunction with the Huntsville training center and tested the course with a class of students from various Federal and state agencies. The program also provided initial funds for the centers of protective design and electronic design to start the development of Civil Works related programs. In addition a centralized classified depository for completed RAM-D assessments was established.

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National Emergency Preparedness Program (NEPP)

SUMMARIZED FINANCIAL DATA:

Estimated Annual Cost of Continuing Program	$7,000,000
Appropriation for FY 2005	5,000,000
Allocation Requested for FY 2006	**5,000,000**
Increase of FY 2006 Over FY 2005	0

AUTHORIZATION: Executive Orders 10480 and 12656, which cite several acts including The Stafford Act, are the basis for the Federal Response Plan.

JUSTIFICATION: The budget request will enable the Corps to be prepared to accomplish its continuity of operations and continuity of government responsibilities during national/regional crises. This entails support of civil government through coordinated execution of federal agency plans and the planning/conducting of limited exercises to test readiness to provide such support. Executive Orders 10480 and 12656 and the Federal Emergency Management Agency (FEMA) under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 USC 5121 et seq. are the basis of the Federal Response Plan. The cited executive directives assign significant responsibilities for such preparation (planning, training, research and testing) to the Corps. This includes responsibility for development of comprehensive national level preparedness plans and guidance for response to all regional/national emergencies, whether caused by natural phenomena or acts of man, plans for response(s) to acts of terrorism, and the local preparedness necessary to support Corps continuity of operations. The Corps provides engineering and construction support to state and local governments in response to catastrophic natural/technological disasters. Rapid response to disasters of a regional/national magnitude requires that extensive pre-emergency planning and preparedness activities be conducted to assure the availability of a work force capable of shifting from routine missions to crisis operations and the organizational command and control structure(s) necessary to provide a coordinated and comprehensive response in the critical early stages of a catastrophic disaster.

This program provides the activities necessary to prepare for response to catastrophic natural and technological disasters requiring major Federal support of state and local governments overwhelmed by a disaster event, and for national level emergency water planning. The preparation requires the development of plans, training of employees, conducting training exercises, including support to Federal Emergency Management Agency (FEMA) exercises, and coordination within DOD and with other Federal agencies and state and local governments. Unlike the Corps Civil Works programs related to individual project planning, development and operations and maintenance, the NEPP requires the development of an integrated command planning and response capability. Corps divisions have a key role in the planning, coordination and operational control of multi-district response(s) and the integrated preparedness effort required for accomplishing this response. Preparation also includes the Headquarters sponsored Corps-wide programs necessary to provide the capabilities and operational command and control required by Corps field commands in order to accomplish their NEPP responsibilities, both routinely and in specific emergency response situations. NEPP also provides USACE with the ability to engage and coordinate readiness with other agencies at the National level on programs of Federal primacy or interests. The NEPP is complementary to the Flood Control and Coastal Emergencies (FCCE) appropriation. Although both programs are related to emergency situations, there is a distinct separation of responsibilities. The NEPP provides for the planning, training, and testing activities necessary to develop the capability to meet essential requirements associated with local continuity of operations and response(s)to scenario specific national/regional crises. The FCCE, on the other hand, provides preparedness and response related to emergency flood fighting, post-flood repair and restoration of flood and shore protection works damaged or destroyed by floods, hurricanes or wave action and Corps preparedness associated with Federal Response Plan mission requirements.

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PROPOSED ACTIVITIES FOR FY 2006: The FY 2006 program will provide for continuing the implementation of the National Emergency Preparedness Program. The FY 2006 program will continue the process of catastrophic disaster planning and exercising to enable the Corps to rapidly respond to a broad spectrum of emergencies, with emphasis on natural disaster and terrorists events that have regional and national implications. An effort will be made to satisfy increasing demands on the program to support multi-agency (Federal, state, and local government) requests to exercise plans focusing on regional catastrophic natural and man made disasters. Increasingly, Federal, state and local agencies are looking to the Corps to take the lead in this area. Lessons learned from events such as the Senior Leader Seminar, the National Capitol Region workshop, the New Orleans Catastrophic Hurricane Exercise, and the evolving New Madrid earthquake scenario, clearly indicate that the current system does not adequately provide for a response to catastrophic disasters that is timely enough or comprehensive. The Corps has initiated a program that uses the deliberate planning process to develop scenario specific catastrophic disaster plans. This will result in more detailed planning and should provide for a more comprehensive response to national/regional catastrophic disasters to include terrorist attacks. More extensive coordination with Federal, state and local entities will be incorporated into plan development. In this regard, following FEMA's program focus, USACE will continue to play a key role in national security planning such as supporting Homeland Security strategic planning efforts, development of the National Capitol Region Response Plan and other plans as the New Madrid Earthquake, the South Florida Hurricane, the Southern California Earthquake, the New Orleans Hurricane and other contingencies with national implications. Additional efforts will focus on continuing to strengthen COOP readiness and conducting exercises within the scope of available funding during FY 2006.

ACCOMPLISHMENTS IN PRIOR YEARS: The USACE Cascadia Sub-duction Earthquake Regional Readiness Workshop, involving a significant earthquake in the northwestern region of the US, was conducted in July 2002. This exercise, supported by the FEMA leadership, was also very successful and served to strengthen partnerships, and promote mutual understanding of the roles, responsibilities, and interests of USACE, FEMA, other Federal agencies, State and local governments and industry representatives. In November 2003, a U.S. Army Corps of Engineers Regional Response Workshop was held in Anchorage Alaska. This workshop served to validate the Anchorage Earthquake Catastrophic Disaster Response Plan (CDRP), serve as a means of addressing the unique requirements of a CDRP occurring in an extremely harsh environment, and to set the stage and planning for a related Command Post Exercise (CPX). A North Atlantic Division Weapons of Mass Destruction Regional Readiness Workshop was conducted in the Washington DC area in April 2003. This workshop served to provide an understanding of U.S. Army Corps of Engineers (USACE) roles and responsibilities under the Federal Response Plan, particularly by examining the evolving USACE and ESF #3 role in relation to the department of Homeland Security and the National Capitol Region Weapons of Mass Destruction Incident Contingency Plan. In June 2004, a Senior Leader Seminar was conducted in the Washington DC area. This seminar involved high level interagency participation to include local, state, and national officials. Additionally, there have been several exercises with NORTHCOM such as Unified Defense 04 and Determined Promise 04. Seminars, workshops, and exercises, such as mentioned above, strengthen partnerships and promote mutual understanding of the roles, responsibilities, and interests of USACE, FEMA, other Federal agencies, and State and local governments involved in natural disasters and terrorists responses. They also provide an excellent opportunity to examine contingency plans, capabilities, and communications at federal, state and local levels. Region-specific issues are also identified and addressed.

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National Lewis and Clark Commemoration Coordinator

SUMMARIZED FINANCIAL DATA:

Estimated Total (FY 2002-2008) Program Cost	$2,762,000
Appropriation for FY 2005	319,000
Allocation Requested for FY 2006	**319,000**
Increase of FY 2006 over FY 2005	0

AUTHORIZATION: The 2002 and 2003 Energy and Water Appropriations acts. Presidential Proclamation 28 June 2002.

JUSTIFICATION: The bicentennial commemoration of the Lewis and Clark Expedition is a significant nationwide event, which began in January 2003 and will continue through 2006. It is imperative that activities regarding this event at all levels of the Corps be coordinated. A National Bicentennial Council has been established; federal, state, Tribe and local governmental entities are planning the roles they will play in the commemoration. Political interest has also increased rapidly. Of the more than 5,000 miles of trail from Washington D.C. to the Pacific Ocean, the Corps directly or indirectly manages nearly 4,700 river miles, thus managing more of the trail than any other entity. By virtue of its role as administrator of large stretches of public land along the trail route, and its Army heritage of exploring and mapping of the western United States, the Corps is playing a significant leadership role in the observance of the Lewis and Clark Expedition Bicentennial. The nature of this event will involve large numbers of the public traveling through numerous Corps local jurisdictions. FY 2004-06 is the key period to meet the expected increase in recreational visitation on the Mississippi River and points west on the Missouri, Clearwater, Snake, Columbia, and Yellowstone rivers with five National Signature Events and many regional events taking place in FY 2006. These events will require significant participation of local Corps sites, in accordance with expectations of local partners. The Lewis and Clark Coordinator is responsible for ensuring consistent agency-wide information on safety, traversing navigation structures (locks and/or dams), historic facts, and the geographic location of the Expedition's route. The Coordinator is also responsible for a consistent agency position in coordination activities with the large number of states, local communities and tribes planning local events either on or in close proximity to Corps projects. Coordinator is also responsible for continued coordination with the Army, state governors, Lewis and Clark Committees and other non-Army federal agencies.

PROPOSED ACTIVITIES FOR FY 2006:

1. Continue to develop funding sources. Develop partnerships with groups such as the Center of Military History, Association of the US Army, National Environmental Education Training Foundation, and others. Use Challenge Partnership Program to develop potential partners. Seek out new and different funding sources (National Endowment of the Humanities, etc.) Establish partnerships with cooperative associations. Seek ways to accept corporate donations and other non-traditional types of funding. Seek financial assistance (e.g., grants, donations, etc) to support activities, facilities and other identified needs.

2. Build partnerships. Maintain contacts with BIA and Tribal government designees. Continue contacts with state governor's committees. Coordinate proposed Corps/Army efforts with other federal and state agencies. Work with state recreation and tourism initiatives to market this opportunity for cultural and heritage tourism. Work with Native Americans to ensure their story is interpreted according to their traditions. Identify tasks that could be co-sponsored or co-produced.

3. Improve facilities and interpretation. Work with private and public organizations in partnership efforts to improve public access and recreation infrastructure. Implement actions identified in PMP and other management plans. Provide educational and interpretive opportunities for field and park ranger staff. Develop strategy for participation in reenactment activities (e.g., rendezvous, demonstrations, costumed interpretation and festivals).

4. Implement plans for Bicentennial activities. Participate in five Signature Events and several regional events. Continue coordination on new Signature Events that may be added in FY 2007. Coordinate with commercial entities. Coordinate and implement Corps staffing effort for Signature Events. Coordinate volunteer efforts to handle increased visitation during summer recreation season.

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Performance Based Budgeting Support Program

SUMMARIZED FINANCIAL DATA:

Estimated Annual Cost of Continuing Program	$2,540,000
Actual FY 2004	1,415,000
Appropriation for FY 2005	734,000
Allocation Requested for FY 2006	**2,540,000**
Increase of FY 2006 over FY 2005	1,806,000

AUTHORIZATION: The Government Performance and Results Act of 1993 (GPRA) and under general authorities contained in various laws.

JUSTIFICATION: The President's management agenda and GPRA requires that the Corps implement performance based budgeting for Civil Works Operations and Maintenance, General Program. The Performance Based Budgeting Support Program addresses this requirement by the collection, management and distribution of data; seeking new methods for linking performance to annual budget requests; and for analyzing the potential economic impacts on customers of varying budget levels.

a. **Civil Works Business Function Information**: Provides critical data and information related to Civil Works project inventories, outputs and performance measures; and for the operational and strategic management of Corps' projects, programs, budget development and studies that directly support the Navigation, Hydropower, Recreation, Environment (e.g. Stewardship, Compliance and Restoration), and Flood Damage Reduction Business Line missions. This information supports the Corps program and is the sole source for the Corps, other Federal agencies, partners, stakeholders, and public. These funds include supporting the database management, integration, standardization, operation, enhancement, quality control, user assistance, training, compliance with security requirements and CEEIS services. It is reported under OMBIL-Plus in ITIPS and the OMB 300b submittal accounting for $1,200,000 of the overall OMBIL-Plus costs.

b. **Civil Works Performance Measures and Metrics**: Work includes improvement of performance measures and metrics to be incorporated into the budget decision-making process; support for the Office of Management & Budget's Performance Assessment Rating Tool (PART) initiative; and support for the future Corps budget preparation process. Efforts focus on the refinement of corporate performance principles; and program and project level performance measures that focus on anticipated performance and output at different levels of funding in accordance with the revised finance and accounting cost codes that now align with the five business processes - navigation, hydropower, flood damage reduction, recreation and environment. These measurements, at different organizational levels, provide the analytical basis to identify the incremental return on investment in Corps programs at various funding levels and to make adjustments in priorities both at the program and project levels concerning efficiency of facilities or services. Comparison of measures among projects at all levels helps focus management attention on corrections of program or project deficiencies.

c. **Civil Works Business Analysis**: This task analyzes data using statistical and other analytical techniques and tools to uncover relationships among budget, expenditures and performance within and between Corps business processes. The relationships and statistics drawn from the data may provide evidence to support an increase in expenditures to improve performance. This task will also develop effective graphics to explain relationships found in the data and allow decision-makers to visualize cause and effect. This task links the data gathering, collection and distribution, and use of data in the decision-making process.

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PROPOSED ACTIVITITIES FOR FY 2006: Requested FY 2006 funds will provide continuing support of Civil Works O&M integrated information systems; centrally distributed performance measures, outputs and system inventory information; and evaluation of new measures. FY 2006 funds will also support enhanced development of output-oriented performance measures of the incremental return on investment in Corps Civil Works program areas, including acquisition and training in decision-making software and collection of data to measure performance under PART.

ACCOMPLISHMENTS IN PRIOR YEARS: Included were newly fielded centralized natural resource collection system and user's training in OMBIL data entry and access. The One-stop access for much of Civil Work's budget performance information was expanded for budget submittals in lieu of separate data calls.

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Program Development Technical Support **(ABS-P2))**

SUMMARIZED FINANCIAL DATA:

Estimated Annual Cost of Continuing Program	$250,000
Appropriation for FY 2005	250,000
Allocation Requested for FY 2006	**250,000**
Increase of FY 2006 over FY 2005	0

AUTHORIZATION: The Automated Budget System (ABS) supports gathering, analyzing and submitting project-funding requests to respond to all authorized missions within the Corps Operations and Maintenance program. A new automated information system, P2, will replace ABS beginning in FY 2005. The transition to P2 from ABS for program development will occur during the second phase of P2 implementation.

JUSTIFICATION: The budget estimate provides for carrying out the following work:

The new AIS, P2 is scheduled to provide the O&M program development capability previously provided by ABS. The transition to P2 from ABS for program development has begun and will continue in FY 2006. Work under this activity for FY 2006 will analyze the transition to P2 to ensure that all relevant business processes and rules within ABS are incorporated into P2. All O&M project data within P2 will be examined as well. There will likely be changes needed to adjust P2 to support the O&M program development based on the initial experiences with the new system. This activity will identify needed changes and recommend steps to implement the changes within P2. The technical support for O&M program development will continue to be provided using P2 rather than ABS tools. The deployment of P2 will shift the efforts here towards development of methods and procedures for setting priorities for all civil works activities and analysis of the entire Civil Works program.

PROPOSED ACTIVITIES FOR FY 2006: Examine O&M program development as supported by P2 for FY 2005. Identify needed changes and recommend steps to implement changes in P2. Develop program development procedures to support the entire Civil Works program development.

ACCOMPLISHMENTS IN PRIOR YEARS: Maintained and updated the software systems, provided new tools to generate reports, provided training and support to managers. Developed program development tools within P2.

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Protection of Navigation (Four Items)
Protection, Clearing, and Straightening of Channels
Removal of Sunken Vessels
Waterborne Commerce Statistics
Harbor Maintenance Fee Data Collection

SUMMARIZED FINANCIAL DATA:

Estimated Annual cost of Continuing Program	$5,424,000
Allocation for FY 2004	5,970,000
Budget Requested for FY 2005	5,599,000
Allocation Requested for FY 2006	**5,424,000**
Decrease of FY 2006 from FY 2005	$175,000

AUTHORIZATION:

Protection, Clearing, and Straightening of Channels - Section 3 of the 1945 River and Harbor Act (as amended by Section 915 (g) of the 1986 Water Resources Development Act) provides continuing authority for limited emergency clearing of navigation channels not specifically authorized by Congress.

Removal of Sunken Vessels - Removal of sunken vessels, or other similar obstructions, is governed by Sections 15, 19, and 20 of the River and Harbor Act of 1899, as amended.

Waterborne Commerce Statistics - The USACE serves as the Federal Central Collection Agency, and is the sole U.S. Government source for U.S. domestic and foreign (U.S. foreign waterborne commerce statistics mission transferred to USACE from Census in FY 1999) waterborne commerce and vessel statistics in conformance with the River and Harbor Act of 1922 as amended.

Harbor Maintenance Fee Data Collection - PL 103-182

JUSTIFICATION: The budget estimate provides for carrying out the following work:

a. Protection, Clearing, and Straightening of Channels - Work is undertaken as emergency measures to clear or remove unreasonable obstructions to navigation in navigable portions of rivers, harbors and other waterways of the U.S., or tributaries thereof, in order to provide existing traffic with immediate and significant benefit. The amount requested is an estimate based on historical experience. If actual requirements are more than estimated, funds will be reprogrammed to meet demonstrated needs.

b. Removal of Sunken Vessels **-** Primary responsibility for removal belongs to the owner, operator, or lessee. If the obstruction is a hazard to navigation and removal is not undertaken promptly and diligently, the Corps may obtain a court judgment requiring removal, or remove the wreck and seek reimbursement for the full cost of removal and disposal. Determinations of hazards to navigation and Federal marking and removal actions are coordinated with the United States Coast Guard in accordance with a memorandum of understanding between the two agencies dated

16 October 1985. Removal procedures are outlined in 33 CFR 245. If removal requirements are more than estimated, funds will be reprogrammed to meet actual needs.

c. Waterborne Commerce Statistics - Activities supporting this national statistics mission include: (1) collecting and reporting (includes enforcement role) of water transportation statistical data; (2) automated systems development and operation (transactional systems within Operations and Maintenance corporate information system), processing, compiling, and publishing statistical data and information on waterborne commerce and vessels moving on the internal U.S. waterways, the Great Lakes, and through all U.S. ocean channels and ports; and (3) compiling and publishing the official U.S. documentation of U.S. vessels engaged in commerce, their principal trades and zones of operation. The data provide essential information for navigation project investment analyses and annual funding prioritization for operations and maintenance of existing projects; as project output information for computation of performance measures; for input into the U.S. National Accounts; and for regulatory, emergency management decisions, and homeland defense. This item is reported under OMBIL-Plus in ITIPS and is $1,500,000 of the total OMBIL-Plus cost.

d. Harbor Maintenance Fee Data Collection - Up to $5 million is authorized to be used annually for the administration of the Harbor Maintenance Trust Fund. Most of these funds are used by Customs. The Corps is required to collect data on domestic and foreign shippers of waterborne commerce subject to the Harbor Maintenance Tax (HMT) and provide it to Customs for enforcement and audit purposes. Analysis of Harbor Maintenance Trust Fund (HMTF) revenues and transfers is required to validate the adequacy of the HMTF in light of the uncertainty over the legal and international challenges to the HMT, to document the operation of the trust fund, and to prepare and distribute the *Annual Report to Congress on the Status of the Harbor Maintenance Trust Fund*. Analysis of waterborne commerce shipments and vessel movement data is also needed to respond to legal questions to the HMT; to analyze alternative funding options; and to assess the economic and competitiveness impacts of other potential funding sources. Therefore the Corps requires a portion of the administrative funding. Funds will also be used to modify computer programs to conform to changes dictated by Customs' Automated Commercial Environment. This item is reported in OMBIL-Plus in ITIPS and is $250,000 of the total OMBIL-Plus cost.

FUNDING PROFILE	Actual FY 2004	FY 2005	FY 2006
(d) Harbor Maintenance Fee Data Collection	$ 675,000	$ 608,000	$ 608,000
(a) Protection, Clearing, and Straightening of Channels	$ 50,000	$ 45,000	$ 45,000
(b) Removal of Sunken Vessels	$ 500,000	$ 675,000	$ 500,000
(c) Waterborne Commerce Statistics	$ 4,745,000	$4,271,000	$4,271,000
TOTAL	$5,970,000	$5,599,000	$**5,424,000**

PROPOSED ACTIVITIES FOR FY 2006: Continue ongoing programs to keep channels clear. Perform operations, maintenance and necessary enhancements of nation's waterborne commerce, vessel and shipper data and statistics programs. Work with shippers and carriers to insure enhanced operations at a minimum level of burden. Assist Customs with the development of their Customs Modernization Program to ensure that the Corps' foreign waterborne transportation data needs will be met by the new Automated Commercial Environment/International Trade Data System.

ACCOMPLISHMENTS IN PRIOR YEARS: Performed necessary channel operations. As the Federal Statistical agency for waterborne commerce and vessel activities, not only performed on-going operations, maintenance, security and enhancements to automated information systems and the statistical operation, but collaboratively worked with Federal partners, such as U.S. Customs and with industry. Researched, prepared and published *The Annual Report to Congress for the Harbor Maintenance Trust Fund, 2000-2002*.

Appropriation Title: Operation and Maintenance, General – Fiscal Year 2006

Recreation Management Support Program (RMSP)

SUMMARIZED FINANCIAL DATA:

Estimated Annual Cost for Continuing Program	$1,600,000
Appropriation for FY 2005	1,600,000
Allocation Requested for FY 2006	**1,600,000**
Increase of FY 2006 over FY 2005	0

AUTHORIZATION: This program is conducted under the general authority of PL 78-534, the Flood Control Act of 1944 (58 Stat. 887).

JUSTIFICATION: The recreation program serves over 375 million recreation visitors and generates over $34 million in revenue annually. Visitors spend over $12 billion annually to engage in recreation at Corps projects; over 500,000 full and part time jobs are associated with this spending.

The FY 2006 budget includes a recreation modernization initiative to better meet the expectations of recreation users. The initiative includes a legislative proposal for the Corps of Engineers to participate in the Recreation Demonstration Program, collect additional recreation fees, use those revenues in part to upgrade Corps recreation facilities and retain lease revenues not paid to the states. In addition, the agency will undertake six recreation management demonstration projects.

The RMSP supports the recreation program through the conduct of focused management studies to improve operational efficiencies and the provision of technical assistance, to include technology transfer and technology support and maintenance for recreation specific automated information systems. The RMSP supports strategic planning for and performance monitoring of the Corps recreation business program, subject to the Government Performance and Results Act (GPRA).

The RMSP has 3 major components, which together provide comprehensive support to the Corps Recreation Business Function:

1. Focused Management Studies. RMSP provides focused management studies and reports to acquire and analyze information about recreation trends, accessibility, emerging issues, user conflicts, visitor diversity, use fee impacts and similar elements affecting the Corps recreation program. Analyses to assist in conducting the recreation area modernization program, implementing facility and service standards, and in similar product delivery improvement efforts. Information and technology transfer pursuant to these studies is funded by the RMSP.

2. Management/Technical Assistance. RMSP provides technical assistance to the Recreation Community of Practice in the development of management tools, which quantify recreation program outputs and relate them to customer needs and budget allocations for the purpose of measuring performance. This includes gathering and analyzing information about customer satisfaction with the Corps recreation program. RMSP assures the field workforce is equipped with "state-of-the-art" skills and knowledge to deal with a rapidly changing public. RMSP provides technical support and maintenance for visitation collection and analysis, fee collection and reporting, economic analysis, inventory, and similar automated information programs. RMSP provides short-term assistance to projects in solving specific technical problems.
3. Support to Recreation Program Strategic Planning. Funding to support the activities of the Recreation Leadership Advisory Team (RLAT). The Team is composed of representatives from the division, district and project levels of the Corps natural resources management program. It provides input, advice and support to the Corps strategic planning for the recreation business program.

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PROPOSED ACTIVITIES FOR FY 2006: The Recreation Budget Evaluation System (RecBEST) will be refined to increase the capability to monitor and report Recreation performance measures and evaluate and prioritize budget submissions in response to OMB guidance. The Recreation module of the Natural Resource Management Gateway will be further developed to address high priority needs. Demonstrations will be conducted to identify and quantify the benefits of the Corps recreation program and improve effectiveness in addressing the needs of ethnic minority visitors. Emphasis will be placed on improving communications strategies with non-English speaking visitors. Pilot studies will be conducted to improve recreation use monitoring procedures that will be incorporated into recreation performance measures. Customer satisfaction survey methods will be refined to integrated into program performance measures. Technical support will be provided to field staff to implement improved procedures. Support will be provided to standing NRM committees and task forces including: Recreation Performance Improvement Initiative, Recreation Entrance Fee, Partnerships, Water Safety, Career Development etc. Support will be provided to Headquarters Recreation program staff regarding strategic planning, development of program evaluations and other high priority Headquarters initiatives.

ACCOMPLISHMENTS IN PRIOR YEARS:

Natural Resources Management Gateway was developed to improve ease of use and effectiveness and is compatible with other Corps KM and Community of Practice initiatives. Gateway development integrates best practices and trip planning information to improve customer satisfaction, respond to Administration initiatives such as Healthier US, and address other GPRA performance measures. Recreation facility and service standards were fully integrated into appropriate sections of the Gateway to support future modernization initiatives. Guidance and appropriate tools were developed to improve interpretive services associated with the CE recreation program that advance the public's understanding of the environment and the Corps Environmental Operating Principles. Support to Headquarters was provided to refine the recreation business program strategic plan, utilizing input from the RLAT and stakeholders. Goals and objectives were refined, and actions identified to achieve them. Innovative partnership approaches were developed and field guidance prepared to improve stakeholder participation. Stakeholder outreach was conducted to develop partnerships for strategic initiatives.

Appropriation Title: Operation and Maintenance, General – Fiscal Year 2006

Regional Sediment Management Demonstration Program

SUMMARIZED FINANCIAL DATA:

Estimated Total Program Cost	$15,000,000
Prior Year Allocations	9,840,000
Appropriation for FY 2005	3,500,000
Allocation Requested for FY 2006	**1,391,000**
Increase of FY 2006 from FY 2005	0

AUTHORIZATION: Regional Sediment Management (RSM) activities are authorized by Section 516 of WRDA 96.

JUSTIFICATION: The RSM Demonstration Program objectives are to link the sediment management actions at authorized Corps projects with one another to create a regional management strategy, coordinate management activities with other Federal agencies, State, and local governments, and leverage data collection within regional systems including inland watersheds, rivers, estuaries, and the coast. The goal is to demonstrate short- and long-term cost savings and increased economic and environmental benefits through management of sediments from a regional perspective.

PROPOSED ACTIVITIES FOR FY 2006: All Corps Division Offices (within the U.S.) will continue implementation of regional sediment management initiatives at Division level and through their respective District offices. A strong emphasis will be placed on demonstrating the effectiveness of the 2012 Regional Business Management structure for supporting regional sediment management activities. The program will focus on establishing an RSM community of practice, online knowledge sharing and technology access, development and implementation of an enterprise GIS for data analysis and decision making, and development of Regional Project Management Plans including Regional Dredged Material Management Plans. Demonstration projects will continue to document new sediment management techniques and the economic and environmental benefits of managing sediments on a regional scale. The demonstration projects will identify and produce effective decision support tools, RSM implementation guidance, and computational technology for application of RSM Corps-wide. Information and capabilities will be disseminated via online training, onsite workshops, and websites.

ACCOMPLISHMENTS IN PRIOR YEARS: Mobile District (SAM) completed their 3-year RSM demonstration projects with an estimated cost savings of $9.4 million. A demonstration at East Pass was completed in FY 2002 with collaboration with the United States Air Force, and a demonstration at Perdido Pass was completed in FY 2003. SAM's successful cooperation among Federal agencies and the collaboration among the three levels of government continue with good relationships and may have been their greatest accomplishment. However, the data and model results from the RSM demonstration project allowed SAM to propose a feasibility study that would have had only three years' duration, rather than six, and cost $2 million less. SAM completed three Technical Notes giving other Districts guidance for regional sediment management. Demonstration projects are underway in northeast, central, and southwest Florida, New Jersey, New York, the southeast coast of Lake Michigan, north-central gulf coast of Texas, southern California, the Mouth of the Columbia River, and the Upper Columbia River. The New Jersey and New York projects featured collaboration with the US Geological Survey, the Minerals Management Service, the National Ocean Service, and the National Environmental Satellite Data and Information Service in mapping and managing offshore sediment resources as well as nearshore processes. Habitat for threatened shorebirds was developed after stakeholders took a holistic view of the shoreline sediment management. An estimated $0.3 Million was saved due to regional sediment management practices at Coney Island. A sediment needs analysis (with identifiable sediment sources) was completed for Long Island. The Detroit and Chicago districts collaborated on a regional activity that crossed district

boundaries, and documented the initiative to make the Michigan City Dredged Material Management Plan a regional sediment management strategy document. The Detroit District developed a regulatory strategy for regional sand sharing and management for the Lake Michigan shoreline. The southern California demonstration coordinated the efforts of the Corps with the state and numerous beach communities from Dana Point to Del Mar. In conjunction with the California Sediment Management Working Group, the Los Angeles District developed the GIS-based Coastal Sediment Analyst, a regionally oriented dredging decision support tool that is available for Corps-wide application. The northeastern Florida demonstration links several navigation projects with shore protection projects to conserve sand. In the Galveston District, a change in sediment management practices at the Colorado River project has saved $1 Million after the first year of implementation. The Upper Columbia River demonstration is a team effort between the Corps and other agencies and the Yakima Native Americans to improve the management of watershed lands to improve water quality and reduce sedimentation and dredging requirements for the Corps. In FY04, the RSM Primer was published and is available from the RSM website (see under Publications, http://www.wes.army.mil/rsm/). In FY04, two National RSM Demonstration Workshops were held. The fall workshop was with representatives from the Coastal States Organization to discuss future coordination and opportunities for regional sediment management. The summer workshop identified knowledge gained from each demonstration project through the year, lessons learned, and identified new tools and guidance needed.

Appropriation Title: Operation and Maintenance, General – Fiscal Year 2006

Reliability Models Program For Major Rehabilitation

SUMMARIZED FINANCIAL DATA:

Estimated annual Cost for Continuing Program	$608,000
Appropriation for FY 2005	608,000
Allocation Requested for FY 2006	**608,000**
Decrease of FY 2005 from FY 2006	0

JUSTIFICATION: The purpose of this program is to respond to yearly needs of Districts and Divisions that are preparing Major Rehabilitation reports for the upcoming fiscal year. The objective of the program is to provide reliability models for project features or components that are being considered for Major Rehabilitation, or to provide procedures to consider the impact of various chemical, environmental or physical processes in a reliability analysis.

PROPOSED ACTIVITIES FOR FY 2006: The requested funds will be used to prepare reliability models and collect data for reliability analyses anticipated to be required by several Districts. Reliability models and/or data are anticipated to be needed for the following: Testing of a reliability model for seepage through embankment dams and levees will continue; Begin evaluation of a screening level tool for the districts to use to prioritize major rehabilitation and dam safety projects; Continue evaluation of data collected on performance of dam gates, to determine performance modes and verify load cycles used in reliability analyses, and electrical/mechanical systems model for locks and dams. Provide reliability analysis procedures for additional selected hydropower equipment. It is also anticipated that two rehabilitation workshops would be conducted. The makeup of these units is subject to the needs of the respective Districts and Divisions.

ACCOMPLISHMENTS IN PRIOR YEARS: Reliability models and other analytical tools have been provided in support of Major Rehabilitation reports on numerous navigation and hydropower projects. In addition, 18 rehabilitation workshops have been conducted in the last 10 years to provide assistance to the Districts as they prepare their reports. These workshops offer guidance in conducting reliability and risk analyses, and provide the opportunity for interdisciplinary teams from the Districts to discuss their particular project with HQUSACE and other Districts personnel. In FY05 the Concrete Deterioration model for Lock Walls and the economic consequences will be finalized through as series of expert elicitation workshop which began in late FY04. These models will be applied to a district lock wall to aided in the Major Rehab Program justification. Two rehabilitation workshops were conducted.

Appropriation Title: Operation and Maintenance, General – Fiscal Year 2006

Reserve For Key Emergency Maintenance/Repairs

SUMMARIZED FINANCIAL DATA:

Prior Year Allocations	$0
Allocation Requested for FY 2005	35,000,000
Appropriation for FY 2005	0
Allocation Requested for FY 2006	**20,000,000**
Decrease of FY 2006 from FY 2005 Budget	15,000,000

AUTHORIZATION: Inherent in various authorizations to operate and maintain specific projects.

JUSTIFICATION: The reserve would be established to set aside some funds for use on unforeseen urgent maintenance and repairs at key facilities. Uses of the Fund will be subject to the approval of the Assistant Secretary of the Army for Civil Works ASA (CW). Unused funds will be carried over to following fiscal years for similar application to similar, high priority maintenance and repairs. The Fiscal Year 2006 budget provides $20 million for the Fund.

PROPOSED ACTIVITIY FOR FY 2006: The funds will be held in reserve and utilized only to cover unforeseen urgent maintenance and repairs at key facilities as determined by the ASA (CW).

Appropriation Title: Operation and Maintenance, General – Fiscal Year 2006

Water Operations Technical Support (WOTS)

SUMMARIZED FINANCIAL DATA:

Estimated Annual Cost for Continuing Program	$1,500,000
Budget Requested for FY 2005	653,000
Allocation Requested for FY 2006	**653,000**
Increase of FY 2006 from FY 2005	0

AUTHORIZATION: These efforts are necessary to provide support for the restoration and management of Federal water resources.

JUSTIFICATION: Maintaining the high quality environmental and water quality conditions at 562 Corps reservoirs (5,500,000 surface acres), 237 navigation locks, 926 harbors, 75 hydropower projects, and 25,000 miles of inland and coastal waterways requires compliance with numerous statutes and state standards. Providing the technology and knowledge base necessary to broadly address environmental requirements in accordance with laws and regulations can best be accomplished through a comprehensive centralized program that will maximize cost effectiveness, and ensure broad dissemination and implementation of technology and information.

PROPOSED ACTIVITIES FOR FY 2006: The WOTS Program is expanding as environmental conditions at Corps project sites continue to deteriorate. The program will continue to provide effective environmental and water quality management technologies to address a wide range of issues at Corps reservoir and waterway projects, and in river systems nationwide. The program will provide technology to address: problems caused by aquatic invasive species, tailwater fisheries concerns at pump-back hydropower projects; water quality impacts of landuse, sediment and nutrient loadings, erosion, and reservoir sedimentation; and project operations related to environmental and water quality issues.

WOTS will provide technical support to the Corps' mission related project responsibilities, with special emphasis on the transfer of technology. The program will ensure that the technologies developed by the Corps and other Federal agencies are current and readily available to all Corps field offices. The effective use of technologies will be secured through field demonstrations (which are anticipated to expand significantly in FY 2006 in the context of comprehensive water resource management on basin scales), specialty workshops, information bulletins, technical notes, executive notes, technical reports, miscellaneous papers, instruction manuals, videos, meetings, seminars, briefings, congressional testimony, and the Internet.

ACCOMPLISHMENTS IN PRIOR YEARS: Since its inception in FY 1985, WOTS has provided environmental and water quality technological solutions to over 1,400 problems identified at projects from every Corps District. The program annually publishes and distributes numerous copies of manuals, bulletins, notes, and reports. WOTS annually conducts specialty workshops, training personnel on the latest environmental and water quality management techniques. In FY 2005, the WOTS program successfully responded to 50 direct technical assistance requests from 26 Corps Districts, conducted 3 technology demonstration efforts to verify management strategies and techniques, conducted 6 training workshops on environmental and water quality management techniques, and prepared 7 technical publications for distribution to the field. A continual endeavor of the WOTS program is coordination with water quality and environmental elements of other Federal agencies such as the Environmental Protection Agency, Tennessee Valley Authority, Bureau of Reclamation, Fish and Wildlife Service, U.S. Geological Survey, and the Bonneville Power Administration. These efforts have involved watershed management activities, problems related to the introduction and spread of aquatic invasive species, environmental impacts of hydropower facilities, and impacts of water releases in tailwater areas on fisheries.

Appropriation Title: Operation and Maintenance, General – Fiscal Year 2006

Recreation Initiative

BACKGROUND. The Corps is the largest Federal provider of outdoor recreation services. Over 4,300 recreation areas are located on Corps managed lands at 456 projects in 43 states. The Corps has long been a leader in developing partnerships to assist in providing recreation opportunities. For this reason, about 1800 (43 percent) of these recreation areas are operated and maintained by other entities, such as states and local governments, under a lease or license agreement. Water oriented recreation is attractive to visitors, and Corps sites and facilities serve millions of people each year. Eighty percent of Corps projects are located within 50 miles of a major metropolitan area, making the recreation opportunities easily accessible to many Americans. For example, Lewisville Lake near Dallas, Texas attracts large numbers of visitors, as does J. Percy Priest Lake near Nashville, Tennessee. The 2006 Budget includes $268 million for the recreation program.

PROPOSED LEGISLATION. The 2006 Budget proposes a Corps recreation modernization initiative, using a promising model now used by other major federal recreation providers such as the National Park Service and the Forest Service. The Administration will propose legislation to allow the agency to use a portion of the new fees it collects to upgrade the sites where the fees are collected. The legislation will include authority for the agency to charge entrance fees and other types of user fees where appropriate.

OBJECTIVES AND IMPLEMENTATION. The Corps expects the recreation modernization initiative will result in increased recreation fee receipts that will be used to upgrade and modernize recreation sites and facilities, to assure that quality public outdoor recreation opportunities may be provided on Corps lands into the future. The table below indicates the expected increases in recreation fee receipts over a 5-year period, compared to a baseline of $37 million.

FISCAL YEAR	ENTRANCE FEES ($M)	REFINEMENTS TO EXISTING USE FEES ($M)	INCREASED VISITATION ($M)	PARTNERING ($M)	TOTAL INCREASE ($M)
2006	5	1	3	0	9
2007	10	1	3	1	15
2008	15	1	4	1	21
2009	15	1	5	2	23
2010	15	1	6	2	24

In conjunction with this proposal, the Corps plans to work closely with the Congress and with local communities neighboring Corps lakes to determine how best to implement and build on this initiative. The Corps will focus on the following areas of interest:

- The Corps currently collects a variety of fees and user charges, including overnight camping fees, day-use fees, and fees for special events; lease payments paid by concessionaires including marinas; shoreline use permit fees; and agricultural lessees' fee payments. The agency will review its current authorities, and make appropriate adjustments if it finds revisions can improve program quality.
- New management arrangements may offer local leaders increased opportunities to partner with the Corps in operating the lakes. Innovative public/private partnerships with organizations such as Lake Improvement Districts may provide models the Corps could modify or adopt, as appropriate.
- The Corps now works closely with state and local officials. It also works extensively with volunteers, other stakeholders and interest groups. The agency may elect to expand these activities.

Appropriation Title: Operation and Maintenance, General – Fiscal Year 2006

The agency looks forward to working together with local stakeholders and with their representatives in Congress to develop improved ways of doing business, being responsive to stakeholders, while assuring quality outdoor recreation opportunities are available for the enjoyment of current and future generations of Americans.

APPROPRIATION TITLE: Regulatory Program, FY 2006

AUTHORIZATION: Rivers and Harbors Act of 1899, Sections 9, 10 and 13
Clean Water Act, Section 404
Marine Protection, Research and Sanctuaries Act, Section 103

SUMMARIZED FINANCIAL DATA:

Budget Request for Fiscal Year 2006	$160,000,000
Budget Request for Fiscal Year 2005	$150,000,000
Proposed Increase in FY 2006 over FY 2005	$10,000,000

JUSTIFICATION:

Background. The Corps of Engineers has been regulating specific activities in the Nation's waters since 1890. Most of the authority for administering the program has been delegated to District and Division commanders. National public awareness of the aquatic environment, including wetlands, and the involvement of state and Federal resource agencies continue to grow. Sensitivity to wetlands has resulted in greater direct input from the public as well as support for environmental interest groups, resulting in greater scrutiny and controversy in the review of permit proposals. While this tends to add time to the permit review process, it insures more balance in the overall review. Interagency cooperation in the management and protection of the nation's wetlands has greatly improved over the last ten years, resulting in improved efficiency and effectiveness of the Corps Regulatory program. Some changes have enhanced efficiency, allowing the Corps to respond more quickly to permit applicants, while others have improved its ability to ensure protection of the aquatic environment. Since 2002, the Corps has cooperated with the other agencies in the National Wetlands Mitigation Action Plan, designed to improve all aspects of mitigation managed by the program. The General Permit Program is designed to reduce Federal regulation of activities with only minimal adverse impacts on the aquatic environment and to eliminate duplication of effort with state and local governments. The Corps works with state, tribal, and local governments to develop mechanisms that give them greater responsibility for aquatic resources including wetland regulation. This is achieved primarily through programmatic and regional general permits but also includes joint permit applications and processing procedures as well as work-sharing agreements. State Programmatic General Permits are becoming an increasingly effective mechanism for giving states a greater role in administering minor permit actions over large areas, thus freeing up Corps resources for more complex permit actions. States may assume Section 404 authority (in non-navigable waters) where the state or local regulatory program is able to implement appropriate regulatory controls. Since 1984, only Michigan and New Jersey have chosen to assume this aspect of the program.

Types of Activities Regulated by the Corps.

a. Construction and other work in waters of the United States including wetlands;
b. Construction of fixed structures and artificial islands on the outer continental shelf;
c. Discharges of dredged or fill material, including those associated with construction and land-clearing activities, into the waters of the United States including wetlands;
d. The transportation of dredged material for the purpose of disposal in ocean waters.

APPROPRIATION TITLE: Regulatory Program, FY 2005 (continued)

Evaluation Criteria. The decision whether to issue a permit is based on an evaluation of the probable impacts of proposed activities on the aquatic environment, including wetlands and other aspects of the public interest. In order to issue a permit, District Commanders must determine that activities are not contrary to the public interest. In addition, for Section 404 permits, the Corps must determine compliance with the Clean Water Act, Section 404 (b)(1) guidelines.

ACCOMPLISHMENTS: In FY 04, the Corps authorized more than 88,000 activities in writing, a 2,000 increase over FY 03, and completed more than 100,000 jurisdiction determinations, an all-time high. Of the more than 88,000 permits, 92 percent were authorized by regional and nationwide general permits and the remaining 8 percent by individual permits. The Corps continues to depend on its nationwide permit program to help manage its regulatory workload. Without regional and nationwide general permits, all activities would have to be intensively evaluated as individual permits. Although the evaluation process for an individual permit is typically greater than that for a general permit, most regional and nationwide authorizations now involve substantive evaluation and determination of necessary mitigation. The Corps will be developing the revised Nationwide permits for publication in FY 2006 and re-issuance in FY 2007.

Following announcement in December of 2002 of a multi-agency Mitigation Action Plan, the Corps and other Federal wetland agencies began work to implement a national wetlands mitigation plan to improve the ecological performance and results of compensatory mitigation under the Clean Water Act and related programs. This plan emphasizes watershed approaches and use of wetlands functions and values in determining impacts and mitigation. The plan is a five-year comprehensive effort to improve compensatory mitigation. In FY 04, guidance for compensatory mitigation in off-site, in-kind situations was finalized along with proposals for guidance on the use of buffers, wetlands preservation, and mitigation for difficult to replace wetlands. In addition, the Corps is continuing work on a proposed rule that will consolidate much of the existing guidance and policy on mitigation including development of new performance standards and processes to analyze and approve proposed wetland mitigation banks.

The Corps continues to protect the nation's aquatic environment, while working to provide fair and equitable decisions in a reasonable period of time. Because of a nearly 50-percent increase in the total number of written permit authorizations over the last ten years as well as increasing program review requirements and legal challenges, the Corps has not been able to maintain its evaluation time for the more complex permit actions. In FY 04, 86% of all actions were authorized in less than 60 days, a decrease in performance from FY 2003 from 88. Performance in evaluating the more complex project requiring standard permits has also continued to decline. With nationwide and regional general permits authorizing most actions, only the most difficult permits are left to be handled through standard permits. In FY 04, 53% of standard individual permits were completed within 120 days, compared to 56% in FY 03 and 80% in FY 98. Standard permits represent only about 8% of all permits in numbers but utilize almost a third of all Corps man-days expended on permit actions. The environmental review of all standard permits continues top be extensive; proposed projects that are large and have significant impacts on the aquatic environment have a higher probability of involving endangered species, historic resources, and requiring mitigation that make these applications extremely difficult and time-consuming. The impact of these problems increases each year as the less environmentally sensitive areas are developed and developers are forced to consider building in or near higher value aquatic areas, including wetlands. Because of these reasons, more permit decisions, whether issued or denied, are resulting in litigation. The potential for litigation increases the need for more-in-depth review and documentation on complex permits.

Uncertainty about the program’s jurisdiction following a 2001 Supreme Court decision on non-navigable, intrastate, isolated waters has not been resolved. The General Accounting Office is currently conducting a second study of this issue.

APPROPRIATION TITLE: Regulatory Program, FY 2005 (continued)

FISCAL YEAR 2006: The request of $160 million is $16.6 million over the amount appropriated for FY 05. This funding will allow continuation of efforts to be more responsive to the regulated public while continuing to ensure the protection of the aquatic environment as required by law. The funding amount allows progress toward the goal of reducing time to evaluate standard permits and make decisions on Nationwide and general Permits. Additional funds will be allocated for inspections of permitted activities to improve compliance of permitted projects and to insure mitigation oversight; the Corps has been criticized by the National Academy of Sciences and others for inadequate compliance. Enforcement funding will remain at current levels. The change to improve the management of compliance is part of an overall initiative to demonstrate program improvements through new performance standards developed in cooperation with the Office of Management and Budget using the Program Assessment Rating Tool.

In FY 06, The Corps and the other federal agencies will complete the remainder of the work under the Mitigation Action Plan, including the primary goal of this program to develop guidance on the evaluation of impacts and mitigation from a holistic watershed approach. Study efforts will continue to develop watershed approaches that can consider impacts in entire aquatic ecosystems to help expedite permit actions and manage aquatic resources in sensitive areas. Where these watershed studies and evaluations of the impacts of future permits in an aquatic system are undertaken, permit evaluation workload can be greatly reduced. The Regulatory program is currently developing a comprehensive watershed management plan to assist with permit processing. The watershed plan is designed to allow the agency to work cooperatively with other federal agencies, state and local governments, regional and local nongovernmental organizations, private property owners and other stakeholders to ensure sound use of watershed aquatic resources. As part of this effort, the Regulatory program will actively seek state partners to develop State Programmatic General Permits that will utilize these watershed data and streamline the permit process.

Other program management efforts will continue, including specialized training of Corps personnel and technical assistance to Corps districts by the Engineer Research and Development Center (ERDC). For FY 2006, approximately $500,000 would be allocated to ERDC for its direct technical assistance with complex and sensitive permit cases. ERDC is also producing a series of regional wetland delineation manuals that will improve decision-making and consistency in wetland delineations by taking into account regional variations in wetlands. In addition, a similar funding amount may be allocated to the Institute for Water Resources to address special program management issues such as studies of mitigation banking, improvement of the ORM data system to track program workload and wetland acreage, and assessment of impacts due to program changes. Assuming projected funding levels, the program will be able implement a greatly improved data system for tracking workload and measuring success at protecting the environment as well as tracking program performance by the end of FY 06. Funds also will be used to pay for the review of environmental impact statements (EIS's); some districts are now dealing with unusually large and controversial projects requiring EIS's. Examples of some projects are port expansion projects in Los Angeles and Charleston, "windfarms" in New England, mountaintop mining in the Appalachian area, and programmatic EIS's in south Florida.

The $160 million will be applied as follows:

Permit Evaluation	$ 130,000,000
Enforcement & Resolution	$ 12,000,000
Administrative Appeals	$ 1,000,000
Studies (SPGP's) and Wetlands Technical Support	$ 5,000,000
Environmental Impact Statements	$ 1,000,000
Compliance for Authorized Activities & Mitigation	$ 11,000,000
TOTAL	$ 160,000,000

APPROPRIATION TITLE: Flood Control and Coastal Emergencies (FCCE), FY 2006

SUMMARIZED FINANCIAL DATA:

Annual Appropriation FY 2004	$0
Emergency Supplemental FY2004	$0
Annual Appropriation FY 2005	$0
Emergency Supplemental FY2005	$148,000,000
Budget for FY 2006	$70,000,000

DISASTER PREPAREDNESS AND EMERGENCY RESPONSE: The U.S. Army Corps of Engineers plays an important role in preparing for and responding to floods, hurricanes and other natural disasters throughout the United States. In that regard, the Corps must maintain a preparedness program that ensures the agency is ready to respond to the needs of the Nation. Such a preparedness program ensures that mobilizing people and materials, obtaining contractor support, and coordinating with other agencies involved in emergency events are accomplished on an expedient, “24/7” immediate response basis. The response can be funded under Corps authorities, such as P.L. 84-99, 33 USC 701n, Flood Control and Coastal Emergencies, or in support of other agencies, particularly the Federal Emergency Management Agency (FEMA) under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 USC 5121 et seq. The Corps’ activities under its P.L. 84-99 authority include the following: preparedness program activities; emergency operations (flood response and post-flood response); emergency repair and restoration of flood control works which are threatened, damaged or destroyed by flood; emergency protection of existing Federal hurricane and shore protection works; the repair or restoration of Federal hurricane or shore protective structures damaged or destroyed by wind, wave or water action of other than ordinary nature; preventive work performed prior to unusual flooding that poses a threat to life or property; providing emergency supplies of clean water following a natural disaster where a source of contaminated water is causing or likely to cause a substantial threat to public health and welfare; and provision of water supplies to drought-distressed areas by reimbursable well drilling or transportation of water at Federal cost.

Included in the funds for these emergency activities are: overtime pay for Headquarters staff, travel to support disaster response and recovery operations, supplies and materials, increased staff support from field activities, and Remote Sensing/Geographic Information System (RS/GIS) services to support field operations. In the event that the response to a recovery from emergency depletes FCCE funds, the Secretary of the Army is authorized to transfer funds from other appropriations temporarily, to finance additional response and recovery costs pending additional FCCE appropriations.

APPROPRIATION TITLE: Flood Control and Coastal Emergencies (FCCE), FY 2006 (continued)

ACCOMPLISHMENTS: The Corps of Engineers has successfully prepared for and responded to a wide array of significant natural disasters. Major disaster response efforts were successfully completed for flood events in California, Washington, West Virginia, Indiana, and Ohio; Hurricanes Charley, Francis and Ivan in Florida, Alabama, Mississippi, North Carolina, Virginia, Pennsylvania, District of Columbia and Maryland; and tornadoes in Missouri, Illinois and Tennessee. Recovery activities for rehabilitation of damaged flood control works and hurricane shore protection are continuing at various locations throughout the continental United States. Other initiatives such as the concept for advance contracting make the Corps more responsive and efficient in disaster related work. Development and maintenance of these and other capabilities are critical to continued success.

Major preparedness efforts include the review and updating of response plans based on lessons learned from recent disasters; training of personnel and teams to develop critical skills which enhance the capability to respond under adverse conditions; procurement and prepositioning of critical supplies and equipment (i.e., sandbags, pumps) which likely would be otherwise unavailable during the initial response stages; periodic exercises to test and evaluate plans, personnel, and training; inspection of non-Federal flood control projects to ensure their viability to provide flood protection and assess their eligibility for post-flood rehabilitation; laboratory support for field operations; liaison with state and local governments and agencies; and effective management to ensure workable, coordinated efforts that will meet the needs of disaster victims. The funding identified under Disaster Preparedness reflects expanded national and regional planning, training and coordination to support response to all natural disasters that includes disasters under the umbrella of the National Response Plan.

FISCAL YEAR 2006: The Budget funds this program at $70 million. The FY05 regular appropriation was zero, but a $148M supplemental was received in November 2004. FY 06 funding is needed to maintain program performance in a typical year. This , which should cover preparedness and response activities while reducing the risk of disrupting other Corps programs when the Corps responds to emergencies, and reducing reliance on supplemental funding. The decision to seek this funding level reflects the findings and recommendations of the Program Assessment Rating Tool (PART). It is estimated that the $70,000,000 requested for FY 06 will provide for the following activities:

Disaster Preparedness	$ 25,000,000
Emergency Operations	$ 15,000,000
Rehabilitations and Levee Inspections	$ 25,000,000
Emergency Water and Drought	$ 0
Advance measures	$ 5,000,000
Total Program, FY 2006	$ 70,000,000

APPROPRIATION TITLE: Formerly Utilized Sites Remedial Action Program, Fiscal Year 2006
($000)

State Project Name	Allocated through FY 2005	FY 2006 Request	Remaining Requirement*
Connecticut			
CE, Windsor, CT	9,007	250	20,883
Iowa			
Iowa Army Ammunition Plant, Middletown, IA	925	400	TBD
Maryland			
W. R. Grace, Baltimore, MD	12,190	500	32,000
Massachusetts			
Shpack Landfill, Norton, MA	10,470	7,000	50
Missouri			
Downtown, St. Louis, MO	138,077	12,800	1,865
Latty Avenue, St. Louis, MO	68,955	7,660	81,050
St. Louis Airport Vicinity Properties, St. Louis, MO	42,739	2,000	98,441
St. Louis Airport, St. Louis, MO	264,256	24,900	3,100
New Jersey			
Dupont Chambers Works, Deepwater, NJ	15,475	1,500	9,050
Maywood, NJ	277,623	29,750	170,250
Middlesex, NJ	79,708	5,000	11,000
Wayne, NJ	124,460	200	130
New York			
Ashland 1, Tonawanda, NY	91,797	3,000	11,480
Colonie, NY	172,579	10,600	9,400
Linde Air Products, Tonawanda, NY	139,590	22,380	5,557
Niagara Falls Storage Site, NY	41,793	2,600	306,550
Seaway Industrial Park, Tonawanda, NY	8,280	800	29,200
Ohio			
Former Harshaw Chemical Company, Cleveland, OH	8,245	2,000	33,980
Luckey, OH	14,466	175	134,355
Painesville, OH	10,250	4,075	5,000
Pennsylvania			
Shallow Land Disposal Area, Parks Township, PA	7,510	1,410	TBD
Potential Sites	1,774	1,000	
	1,540,169	140,000	**963,341**

*The remaining requirement, except as indicated on individual justification sheets, is based on cost estimates developed during the spring of 1998 to validate initial Corps estimates in the Report to Congress. As in the case of the estimates in the Report to Congress, these estimates assume acceptance of criteria for remediation which, while fully protective of human health and the environment also strike an appropriate balance among cost, regulatory and community acceptance, and land use considerations. They also assume funds are provided to support the optimal remediation schedules. The actual remaining requirement may range from $640,000,000 to $1,290,000,000.

CONNECTICUT

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Tentative Allocation FY 2006 $	Additional to Complete After FY 2006 $
Combustion Engineering Windsor, CT New England District	29,700,000 – 42,790,000*	8,757,000	250,000	250,000	29,450,000-33,283,000

The Combustion Engineering (CE) site is a 600-acre area in Windsor, Connecticut. CE, under contract to the Atomic Energy Commission (AEC), fabricated nuclear fuel assemblies using highly enriched uranium (HEU) from 1958 to 1961. CE also conducted licensed commercial nuclear activity on the site from the early 1960's to 1993. Although the commercial nuclear fuel fabrication ceased in 1993, CE is still licensed by the Nuclear Regulatory Commission (NRC) for other commercial nuclear activities and the facility is still operating today. HEU is the primary radiological contaminant of concern at the site, which may be addressed by Formerly Utilized Sites Remedial Action Program (FUSRAP). Only limited site characterization work had been performed when FUSRAP was transferred from the Department of Energy (DOE) to the Corps for execution. Since then, the Corps has performed a gamma survey of the site, completed site characterization (SI), completed an investigation action at the "Rapaport Building".

In FY 2004, the Corps completed a Remedial Investigation Report.

In FY 2005, the Corps completes the feasibility study and initiates preparation of a Proposed Plan and Record of Decision, and continues potentially responsible party discussions.

FY 2006 funds will be used to finalize a Record of Decision and for project management and Quality Assurance activities associated with Remedial Design/Remedial Action being accomplished by the responsible party.

The schedule for completion of site remediation is to be determined.**

*The total cost will depend upon the specific cleanup standards established for this site, taking into account input from Federal, state and local regulators, the general public, and other stakeholders. Once a final cleanup plan for the site has been approved in a Record of Decision, it will be possible to provide a more definitive estimate. Responsible party with Corps oversight may do remedial action.

**The completion schedule will depend on the cleanup standards established for this site and overall funding constraints.

IOWA

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Tentative Allocation FY 2006 $	Additional to Complete After FY 2006 $
Iowa Army Ammunition Plant Middletown, IA St. Louis District	TBD*	425,000	500,000	400,000	TBD*

The Iowa Army Ammunition Plant (IAAAP) is a secured, operational, Army-owned facility located on approximately 19,100 acres near Burlington in Des Moines County, in southeastern Iowa. During its use as an Army facility, portions of the IAAAP were occupied by tenant organizations including the Atomic Energy Commission. From 1947 to 1975, the Atomic Energy Commission (AEC) operated areas of the plant as the Burlington Atomic Energy Commission Plant (BAECP). In 2002 a Preliminary Assessment was completed for the BAECP and the IAAAP was included in FUSRAP. The Preliminary Assessment included a review of AEC historical documents, site visits, examination of the results of an indoor radiological survey, and performance of a limited radiological walkover survey at two firing site areas. Evidence of a release was found and additional investigation to determine the nature and extent of AEC associated contamination was recommended. It is believed that approximately 1,600 acres within the IAAAP have been potentially impacted by Atomic Energy Commission (AEC) operations. Limited survey data and existing sampling data (from other Army activities) indicate radiological (primarily depleted uranium), chemical, and explosives contamination exists. The nature and extent of this contamination will be investigated and defined during the Remedial Investigation (RI), which is the next step in the planning process. The primary regulators/stakeholders include the Environmental Protection Agency Region VII, Iowa Department of Public Health, Iowa Army Ammunition Plant (Army) and the IAAAP Restoration Advisory Board. The site was placed on the National Priority List in 1990.

In FY 2004, the Corps conducted radiological screening surveys of five locations (within the Plant) where insufficient information existed to make a determination of whether the areas were impacted by AEC and initiated development of a Federal Facilities Agreement between the Corps, U.S. Environmental Protection Agency, and the State of Iowa.

In FY 2005, the Corps is negotiating a Federal Facilities Agreement with the primary regulators/stakeholders, and developing the Sampling and Analyses Plan for the Remedial Investigation of the site.

FY 2006 funds will be used for the Remedial Investigation of the Site.

*A preliminary cost estimate for site remediation will be determined at completion of the Remedial Investigation phase.

APPROPRIATION TITLE: Formerly Utilized Sites Remedial Action Program, Fiscal Year 2006 North Atlantic Division

MARYLAND

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Tentative Allocation FY 2006 $	Additional to Complete After FY 2006 $
W.R. Grace Site Baltimore, MD Baltimore District	41,970,000 – 55,960,000*	10,190,000	2,000,000	500,000	29,280,000- 43,270,000

The W.R. Grace site is situated within a 260-acre property owned by Grace, located on an industrialized peninsula in south Baltimore. Currently, Grace manufactures and produces specialty chemicals at this facility. Contamination at the site consists of radioactively contaminated slabs and other surfaces impacted by the thorium extraction process in Building 23, which is still used by Grace, and the Radioactive Waste Disposal Area (RWDA) to the east of the plant proper. The Department of Energy (DOE) had conducted radiological surveys at the site; however, no actual characterization or remediation had been performed. The Corps has finalized the remedial investigations/feasibility studies (RI/FS) and Record of Decision (ROD) for Building 23.

In FY 2004, the Corps finalized the RI/FS and Proposed Plan for Building 23.

In FY 2005, the Corps plans to complete the ROD for Building 23 and the RI/FS for the RWDA.

In FY 2006, the Corps will complete the ROD for the RWDA.

The schedule for completion of site remediation is to be determined.**

* The total cost will depend upon the specific cleanup standards established for this site, taking into account input from federal, state, and local regulators, the general public, and other stakeholders. Once a final cleanup plan for the site has approved in a Record of Decision, it will be possible to provide a more definitive estimate.

** The completion schedule will depend on the cleanup standards established for this site and on overall funding constraints.

MASSACHUSETTS

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Tentative Allocation FY 2006 $	Additional to Complete After FY 2006 $
Shpack Landfill Norton/Attleboro, MA New England District	17,520,000*	5,470,000	5,000,000	7,000,000	50,000

The Shpack site is an 8-acre abandoned domestic and industrial landfill, which operated from 1946 to 1965. It is located along the Norton/Attleboro town boundary line with approximately 5.5 acres in Norton and 2.5 acres in Attleboro. The Town of Norton and Attleboro Landfill, Inc. owns the property. FUSRAP-related radioactive contamination is believed to have come from Metals and Controls, Inc. (now Texas Instruments), which had used the landfill to dispose of trash and other materials from 1957-1965. The General Plate Division of Metals and Controls began to fabricate enriched uranium foils at their Attleboro plant in 1952. In 1959 it merged with Texas Instruments, which continued the operations until 1981, using enriched and natural uranium for the fabrication of nuclear fuel for the U.S. Navy and commercial customers. The site was also listed on the National Priority List (NPL) in 1986, primarily to address other contaminants on site. The Environmental Protection Agency (EPA) has signed an Administrative Order by Consent with a group of Settling Parties (which includes Texas Instruments) for the performance of a remedial investigation/feasibility study (RI/FS). This study was completed in FY04 and a Record of Decision (which addressed the radiological contamination) was signed on 30 September 2004. Through Fiscal Year 2003, the Corps has completed a gamma walk-over survey, site characterization, and potentially responsible party (PRP) investigations.

In FY 2004, the Corps prepared a draft Engineering Evaluation/Cost Analysis (EE/CA) and coordinated with EPA on the Record of Decision.

In FY 2005, the Corps will initiate a remedial action addressing the radiological contamination in accordance with the EPA Record of Decision.

FY 2006 funds will be used to complete the remedial action. Funds required after FY06 will be used to coordinate with EPA while they complete clean-up of the site under the Superfund Program.

The FUSRAP portion of the site is scheduled for substantial completion in FY06.

*The estimated total cost as shown above reflects the cost estimate contained in the Record of Decision.

APPROPRIATION TITLE: Formerly Utilized Sites Remedial Action Program, Fiscal Year 2006 — Mississippi Valley Division

MISSOURI

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Tentative Allocation FY 2006 $	Additional to Complete After FY 2006 $
St. Louis Downtown Site St. Louis, MO St. Louis District	152,742,000	127,077,000	11,000,000	12,800,000	1,865,000

The St. Louis Downtown Site and vicinity properties are located in St. Louis, Missouri. The site is comprised of an operational chemical manufacturing facility (Mallinckrodt Inc.) and 36 surrounding properties used by a variety of interests for industrial and commercial purposes. The primary contaminants of concern are radium-226, thorium-230, uranium-238, progeny, metals, and organic compounds. The extent of contamination includes 17 acres where contaminated soils are accessible for remediation (17 buildings, subsurface soil, and vicinity properties). The primary regulators/stakeholders include the U.S. Environmental Protection Agency Region VII, Missouri Department of Natural Resources, and the St. Louis Oversight Committee. In 1998, a Record of Decision (ROD) for Accessible Soils was signed to allow the removal of approximately 87,000 cubic yards of contaminated soils.

In FY 2004, in accordance with the Record of Decision, the Corps completed remediation of the McKinley Bridge/City of Venice property, initiated remediation at several properties, and completed design for two vicinity properties. A total of 6,400 cubic yards of contaminated soils were removed. In addition, a litigation report was prepared recommending the initiation of legal action against certain potentially responsible parties to recover a part of the remediation costs. (Due to certain judicial decisions rendered in the summer of 2004, the Department of Justice and the Corps jointly decided not to pursue this particular legal action.) The total estimated Federal cost shown above does not reflect possible costs of addressing contamination in inaccessible soils.

In FY 2005, the Corps is remediating approximately 3,500 cubic yards from the Plant 6 West area and two vicinity properties (Midtown Garage and Thomas and Proetz Lumber Company) and completing designs for the Mallinckrodt Plants 7 North/South and 6 West, the Gunther Salt Company property, and an additional vicinity property.

FY 2006 funds will be used to initiate the development of the Feasibility Study/Proposed Plan for inaccessible soils, complete remedial designs for one vicinity property, and remediate approximately 3,500 cubic yards from Plant 7 North/South, Plant 6 West and one vicinity property.

The completion schedule will depend on the recommendation of the Record of Decision for inaccessible soils and overall funding constraints.

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Tentative Allocation FY 2006 $	Additional to Complete After FY 2006 $
Latty Avenue Properties/Hazelwood Interim Storage Site, Berkeley, MO St. Louis District	135,140,000 – 180,190,000*	63,955,000	5,000,000	7,660,000	58,525,000 – 103,575,000

The Latty Avenue Properties site is comprised of several different tracts of land in North St. Louis County, Missouri. The project includes an 11-acre site, encompassing the Hazelwood Interim Storage Site (HISS) and FUTURA Coatings on Latty Avenue, and the Latty Avenue Vicinity Properties, which are at various nearby locations. The Hazelwood Interim Storage Site and FUTURA Coatings were placed on the National Priority List in 1989. The primary contaminants of concern are radium-226, thorium-230, and uranium-238. Surface and subsurface soils are known to be contaminated at levels, which pose an unacceptable human health risk based on projected future land use scenarios. The primary regulators/stakeholders include the Environmental Protection Agency Region VII, Missouri Department of Natural Resources, and the St. Louis Oversight Committee. Potentially Responsible Party investigations are ongoing.

In FY 2004 the Record of Decision, which establishes the final remedy for cleanup of the North St. Louis County sites (which includes the Latty Avenue Properties) was developed and circulated to the U.S. Environmental Protection Agency and the State of Missouri for review. Miscellaneous utility support to the local landowners was also conducted.

In FY 2005, the Corps is finalizing the Record of Decision, conducting characterization and design work for these properties, and continuing its support of local landowners.

FY 2006 funds will be used to complete design work and remediate approximately 15,000 cubic yards.

The schedule for completion of site remediation is to be determined.**

*The total cost will depend upon the specific cleanup standards established for this site, taking into account input from Federal, state, and local regulators, the general public, and other stakeholders. Once a final cleanup plan for the site has been approved in a Record of Decision, it will be possible to provide a more definitive estimate.

** The completion schedule will depend on the cleanup standards established for this site and overall funding constraints.

APPROPRIATION TITLE: Formerly Utilized Sites Remedial Action Program, Fiscal Year 2006 — Mississippi Valley Division

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Tentative Allocation FY 2006 $	Additional to Complete After FY 2006 $
St. Louis Airport Site, Vicinity Properties, St. Louis, MO St. Louis District	122,700,000 – 163,660,000*	39,739,000	3,000,000	2,000,000	77,961,000 – 118,921,000

The St. Louis Airport Site (SLAPS) Vicinity Properties consists of 78 properties in North St. Louis County, Missouri. The contaminated sites include former ball fields (located directly north of SLAPS), areas along haul roads, and Coldwater Creek. The primary contaminants of concern are radium-226, thorium-230, and uranium-238. Dispersion of radioactive material occurred by direct migration from SLAPS via air or water, or through vehicular distribution along the roadways. (This is the case for most of the roadway, shoulder, and ditch contamination.) The properties are used for residential, commercial, industrial, recreational and transportation (road easement) purposes. The primary regulators/stakeholders include the Environmental Protection Agency, Region VII, Missouri Department of Natural Resources, and the St. Louis Oversight Committee. A Potentially Responsible Party investigation is underway.

In FY 2004, the Record of Decision, which establishes the final remedy for the cleanup of the North St. Louis County sites (which includes the St. Louis Airport Site Vicinity Properties), was developed and circulated to the U.S. Environmental Protection Agency and the State of Missouri for review. Miscellaneous utility support to vicinity property landowners was also conducted to ensure the safety of personnel. Complete remediation of the Vicinity Properties will require the removal of an additional 111,000 cubic yards of contaminated material.

In FY 2005, the Corps is finalizing the Record of Decision, completing the characterization of several vicinity properties, and continuing its support of local vicinity property landowners.

FY 2006 funds will be used to perform design work and remediate approximately 10 cubic yards.

The schedule for completion of site remediation is to be determined.**

*The total cost will depend upon the specific cleanup standards established for this site, taking into account input from Federal, state, and local regulators, the general public, and other stakeholders. Once a final cleanup plan for the site has been approved in a Record of Decision, it will be possible to provide a more definitive estimate.

** The completion schedule will depend on the cleanup standards established for this site and overall funding constraints.

APPROPRIATION TITLE: Formerly Utilized Sites Remedial Action Program, Fiscal Year 2006 — Mississippi Valley Division

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Tentative Allocation FY 2006 $	Additional to Complete After FY 2006 $
St. Louis Airport Site, St. Louis, MO St. Louis District	291,156,000 – 293,356,000*	229,756,000	34,500,000	24,900,000	2,000,000 – 4,200,000

The St. Louis Airport Site (SLAPS) consists of 21.7 acres north of Lambert International Airport in North St. Louis County, Missouri. The site contamination is bordered by McDonnell Boulevard on the north and east, Coldwater Creek on the west, Banshee Road and Norfolk and Western Railway on the south. The ditches immediately adjacent to the north and south of SLAPS are considered part of this location. The primary contaminants of concern are radium-226, thorium-230, and uranium-238. The St. Louis Airport Authority owns the property. The primary regulators/stakeholders include the U.S. Environmental Protection Agency Region VII, Missouri Department of Natural Resources, and the St. Louis Oversight Committee. A Potentially Responsible Party Investigation is underway. The site was placed on the National Priority List in 1989.

In FY 2004, the Corps performed design work, removed and shipped approximately 106,800 cubic yards under an Engineering Evaluation/Cost Analysis (EE/CA). In addition, the Record of Decision, which establishes the final remedy for cleanup of the North St. Louis County sites (which includes the St. Louis Airport Site), was developed and circulated to the U.S. Environmental Protection Agency and the State of Missouri for review.

In FY 2005, the Corps is finalizing the Record of Decision, performing design work, and removing approximately 73,000 cubic yards.

FY 2006 funds will be used to remove and ship approximately 80,000 cubic yards of contaminated soil and to develop Post Remedial Action Reports documenting work completed at the site.

The schedule for completion of site remediation is to be determined.**

* The total cost will depend upon the specific cleanup standards established for this site, taking into account input from Federal, state, and local regulators, the general public, and other stakeholders. Once a final cleanup plan for the site has been approved in a Record of Decision, it will be possible to provide a more definitive estimate.

** The completion schedule will depend on the cleanup standards established for this site and overall funding constraints.

NEW JERSEY

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Tentative Allocation FY 2006 $	Additional to Complete After FY 2006 $
DuPont Chambers Works Deepwater, NJ Philadelphia District	22,210,000 – 29,630,000*	12,075,000	3,400,000	1,500,000	5,235,000 – 12,655,000

The DuPont Chambers Works site is a 700-acre active chemical plant located in Pennsville and Carneys Point Townships on the southeastern shore of the Delaware River, north of the I-295 Delaware Memorial Bridge, and adjacent to the residential community of Deepwater, N.J. The plant is owned and operated by E.I. Dupont de Nemours & Company. Operations involving uranium at the Chambers Works site began in 1942. As part of its work on the Manhattan Engineer District (MED) Program, DuPont worked on developing a process for converting uranium oxide to produce uranium tetraflouride and small quantities of uranium metal. The major contaminant is U-238 found in both soil and water samples. Through FY2003, the Corps continued site characterization and Remedial Investigation / Feasibility Study (RI/FS) activities for soil contamination and investigation of possible groundwater contamination, conducted Technical Project Planning sessions with the stakeholders including the New Jersey Department of Environmental Protection, held Restoration Advisory Board Meetings, conducted extensive coordination with the landowner, and completed work-plans for on-site investigations and completed soil sampling.

In FY 2004, the Corps completed groundwater well installation for Operable Units (OU) #1 and #2 and started investigations of OU #3.

In FY 2005, the Corps completes the final RI report and risk assessment, initiates the FS for OU #1 and OU #2, continues soil contamination investigation and analysis of OU #3, and continues possible groundwater contamination investigations.

Requested funds for FY 2006 will be used to finalize the FS for OU #1, OU#2 and OU #3, and finalize the groundwater investigations and analysis on the rest of the site.

The schedule for completion of site remediation is to be determined.**

*The total cost will depend upon the specific cleanup standards established for this site, taking into account input from federal, state, and local regulators, the general public, and other stakeholders. Once a final cleanup plan for the site has been approved in a Record of Decision, it will be possible to provide a more definitive estimate. Current project completion schedules and cost estimates do not include any remedial design or remediation action for potential ground-water contamination.

** The completion schedule will depend on the cleanup standards established for this site and overall funding constraints.

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Tentative Allocation FY 2006 $	Additional to Complete After FY 2006 $
Maywood Site Maywood, N.J. New York District	450,000,000- 500,000,000*	244,613,000	33,010,000	29,750,000	142,627-192,627

The Maywood site is included on the Environmental Protection Agency Superfund National Priorities List. The Corps is currently working under the Federal Facilities Agreement (FFA) signed by DOE and EPA, while we negotiate a Corps/EPA FFA. Site consists of 140 acres of residential, commercial and industrial property totaling 88 commercial and residential properties, located 20 miles north of Newark adjacent to Interstate 80 and State Route 17. There are approximately 281,000 cubic yards of subsurface contaminated material containing thorium-232, radium-226, and uranium-238. The United States owns 11.7 acres of the site, which is being used as a staging area during cleanup operations. The Stepan Company occupies part of the site and operates a chemical factory processing a patented product. Sears operates a large central distribution warehouse (leased) on the site. In the mid-1980's, 25 residential vicinity properties were remediated. In 1994 an Engineering Evaluation/Cost Analysis (EE/CA) by the Department of Energy approved a further interim removal action to remediate an additional 39 vicinity properties. As of the end of FY 00, all of the 39 vicinity properties included in the 1994 EE/CA have been remediated, including 23 completed by the Corps (15 in FY 98, 7 in FY99, and 1 in FY00). Additionally, the Corps has completed a Remedial Investigation/Feasibility Study/Proposed Plan (RI/FS/PP) for soils and buildings on the remainder of the site, prepared an EE/CA for an interim removal action involving 10 commercial properties impacted by New Jersey Department of Transportation projects and completed potentially responsible party (PRP) negotiations through the Department of Justice with the Stepan Company.

In FY 2004 funds were used to complete the remedial design under the ROD and initiate remedial action for the remainder of soils, and to further characterize the site. In addition, the Corps has initiated the groundwater feasibility study.

In FY 2005, the Corps will continue remedial action for the remainder of the soils. In addition, the Corps will complete the groundwater feasibility study and initiate the groundwater ROD.

In FY 2006 funds will be used to continue the remedial action under the ROD and to complete the groundwater ROD.

The schedule for completion of site remediation is to be determined.**

* The total cost will depend upon the specific groundwater cleanup standards established for this site, taking into account input from federal, state, and local regulators, the general public, and other stakeholders. Once a final cleanup plan for the site has been approved in a groundwater Record of Decision, it will be possible to provide a more definitive estimate.

** The completion schedule will depend on the groundwater cleanup standards established for this site and overall funding constraints.

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Tentative Allocation FY 2006 $	Additional to Complete After FY 2006 $
Middlesex Sampling Plant Middlesex, NJ New York District	84,660,000 – 112,890,000*	77,208,000	2,500,000	5,000,000	11,000,000- 28,182,000

The Middlesex site is a Federal government-owned site located in Middlesex, NJ. There are also 36 Vicinity Properties (VPs). Primary contaminants are Uranium-232, Radium-226, and Thorium-232. The Manhattan Engineer District (MED) established the Middlesex Sampling Plant (MSP) in 1943 for use in sampling, storage, and shipment of uranium, thorium, and beryllium ores. MED operations ended in 1955, and the Atomic Energy Commission (AEC) later used the site for storage and performed limited sampling of thorium residues. In 1967, the AEC terminated activities at the MSP and decontaminated onsite structures to meet criteria then in effect. From 1969 to 1979, the site served as a US Marine Corps training center. In 1980, the MSP was returned to the Department of Energy (as AEC's successor), which designated it for clean up under FUSRAP. MSP was used for interim storage of two piles of radioactively contaminated soils removed from the vicinity properties (VPs) and from the Middlesex Municipal Landfill (MML). The Middlesex site was added to the Environmental Protection Agency Superfund National Priorities List (NPL) in FY 1999. Through the end of FY 2001, the Corps has removed and disposed of the MML pile and the VP pile. Coordination with Federal and state agencies, and local communities is continuing.

In FY 2004, the Corps continued the Soils Feasibility Study and the groundwater remedial investigation.

In FY 2005, the Corps completes a Record of Decision (ROD) for soils, initiates the soils remediation and completes the Remedial Investigation and initiate the Groundwater Feasibility Study. Additionally, the Corps continues to work with USEPA Region 2 to develop a Federal Facilities Agreement.

FY 2006 funds will be used to continue the soils remediation and complete the Groundwater Feasibility Study and ROD.

The schedule for completion of site remediation is to be determined.**

* The total cost will depend upon the specific cleanup standards established for this site, taking into account input from federal, state, and local regulators, the general public, and other stakeholders. Once a final cleanup plan for the site has been approved in a Record of Decision, it will be possible to provide a more definitive estimate.

** The completion schedule will depend on the cleanup standards established for this site and overall funding constraints.

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Tentative Allocation FY 2006 $	Additional to Complete After FY 2006 $
Wayne Site Wayne, NJ New York District	124,790,000*	124,260,119	200,000	200,000	130,000

The Wayne site is 6.5 acre Federal government owned site in Wayne Township, NJ. There are also 26 Vicinity Properties (VPs) covering 11 acres in the towns of Wayne and Pequannock. The radioactive contamination (Thorium-232) originated from commercial thorium processing operation conducted by Rare Earths Inc. and W.R. Grace and Company from 1948 to 1971. Contaminants migrated off-site, primarily via Sheffield Brook. The Wayne site was placed on the Environmental Protection Agency's National Priorities List (NPL) in 1984 and was added to the Formerly Utilized Sites Remedial Action Program (FUSRAP) the same year, after Congress directed the Department of Energy to undertake a cleanup of the site. Coordination with Federal and state agencies, and local communities is continuing. W.R. Grace is a potentially responsible party. Settlement negotiations with the company were completed in 1998 and subsequent to court review, a $32M settlement was reached in July 1999. Work accomplished to date includes the disposal of approximately 40,000 CY of soil from the VP pile, created by the remediation of the VPs; completion of an Engineering Evaluation/Cost Analysis (EE/CA); the removal and off-site disposal of 40,000 cubic yards of contaminated soil under the EE/CA; and the development and approval the Record of Decision (ROD). Additionally, the Corps has completed Remedial Design workplans, excavation of contaminated soils in accordance with the ROD, onsite treatment of contaminated water for off-site disposal and site restoration. The US EPA has declared the site as construction complete in September 2003.

In FY 2004, the Corps completed restoration efforts on the 2 vicinity properties with additional contamination. Also, the Corps investigated inaccessible soils under a County owned road adjacent to the site

In FY 2005, the Corps will initiate a Land Use Control for inaccessible soils under the county-owned road and is continuing short-term monitoring and site maintenance as well as site closeout activities.

In FY 2006, funds will be used to continue short-term monitoring and to continue site closeout activities.

*The increase in total estimated cost is due to remediation of additional radioactive contamination found on 2 vicinity properties previously remediated and the investigation of inaccessible soils under the County owned roadway adjacent to the site. A final contract audit will be required for close out of FY 2002 , FY 2003 and FY 2004 contracts to determine the final total estimated cost.

Transition of the completed site to DOE will depend upon the time and effort required to close out previously remediated vicinity properties.

APPROPRIATION TITLE: Formerly Utilized Sites Remedial Action Program, Fiscal Year 2006 Great Lakes and Ohio River Division

NEW YORK

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Requested Allocation FY 2006 $	Balance to Complete After FY 2006 $
Ashland 1, Tonawanda, NY Buffalo District	106,277,000	76,197,000	15,600,000	3,000,000	11,480,000

The Ashland 1 Site is a privately owned 10.8-acre site in the Town of Tonawanda that is contaminated with radiological waste, including thorium, uranium and radium. The waste that was disposed of at the site originated at the Linde plant, where uranium ore was processed. The Record of Decision (ROD) for this site, which includes Ashland 2 and Area D of the Seaway site, was signed in April 1998 and calls for excavation and off-site disposal of radiologically-contaminated wastes. Through FY 2004 the Corps excavated, transported and disposed of 173,000 tons out of state. Backfill of the site was completed in December 2003.

In FY 2004, the Ashland 1 Construction Report was distributed to the stakeholders.The remaining work at the Ashland site is to clean up additional contamination at Rattlesnake Creek with an estimated volume of 20,000 cubic yards. All planned activities continue to be coordinated with the New York State Department of Environmental Conservation.

In FY 2005, the Corps begins remediation work at Rattlesnake Creek.

FY 2006 funds will be used to complete the remedial action work and the Construction Report at Rattlesnake Creek.

The schedule for completion of site remediation is to be determined.**

**The completion schedule will depend on overall funding constraints.

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Tentative Allocation FY 2006 $	Additional to Complete After FY 2006 $
Colonie Site Colonie, NY New York District	185,000,000 – 200,000,000*	160,229,000	12,350,000	10,600,000	1,981,000-16,981,000

The Colonie site consists of a total area of 11.2 acres plus 56 vicinity properties (VPs). The primary site was owned and operated by National Lead Industries (NL) from 1937-1984. The facility was used for electroplating and manufacturing various components from uranium and thorium. Radioactive materials released from the plant exhaust stacks spread to site buildings, portions of the grounds, and the 56 commercial and residential VPs. NL also dumped contaminated casting sand into the former Patroon Lake. By order of a New York State Court the NL plant shut down in 1984. Coordination is ongoing with the New York State Department of Environmental Conservation, and local leaders. The transfer of the property from NL to the Federal government in 1984 contained “hold harmless” language, which precludes holding NL as a PRP. At the time of transfer of FUSRAP execution to the Corps, the Department of Energy (DOE) had completed remediation of the vicinity properties; and in 1995 finalized an Engineering Evaluation/ Cost Analysis (EE/CA), authorizing a removal action to address soils contamination at the former NL property itself. Through FY 2002, the Corps disposed, off-site, stockpiled materials and excavated contaminated soils, in accordance with the DOE EE/CA; completed a reevaluation of the DOE EE/CA and issued an amended EE/CA and revised action memorandum; and continued the groundwater investigations.

In FY 2004, funds were used to continue the removal action under the revised Action Memorandum and prepare a risk assessment and EE/CA for the adjacent CSX vicinity property.

In FY 2005, the Corps continues the removal action under the revised Action Memorandum, and finalizes the CSX EE/CA.

FY 2006 funds will be used to complete the removal actions and develop the groundwater Record of Decision.

The schedule for completion of site remediation is to be determined.**

* The total cost will depend upon the specific cleanup standards established for this site, taking into account input from federal, state, and local regulators, the general public, and other stakeholders. Once a final cleanup plan for the site has been approved in a Record of Decision, it will be possible to provide a more definitive estimate.

** The completion schedule will depend on the cleanup standards established for this site and overall funding constraints.

APPROPRIATION TITLE: Formerly Utilized Sites Remedial Action Program, Fiscal Year 2006 — Great Lakes and Ohio River Division

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Requested Allocation FY 2006 $	Balance to Complete After FY 2006 $
Linde Air Products Tonawanda, NY Buffalo District	167,527,000	115,690,000	23,900,000	22,380,000	5,557,000

The Linde site is located in the Town of Tonawanda, a suburb north of Buffalo, NY. The project consists of two distinct areas: the original Linde site that is now owned and occupied by Praxair, Inc.; and (2) the designated vicinity property, the Tonawanda Landfill and Mudflats area that is located about 1.5 miles north of Praxair. The Linde site is a former industrial complex in an urban area that now serves as the worldwide research and development facility for Praxair. Currently, employment is approximately 1,400 people. A public elementary school and numerous residential properties adjoin the property. Radioactive contamination generated by former Manhattan Engineering District activities, in the soils, buildings, and groundwater at the Linde site are being evaluated and remediated, as required under CERCLA. The principal radionuclides of concern are radium, thorium, uranium, and decay products. The Tonawanda Landfill and Mudflats Area consists of two contiguous Town of Tonawanda municipal tracts: the Landfill being approximately 55 acres; and the Mudflats Area, approximately 115 acres. Radioactive contamination at this vicinity property is being evaluated to determine if remediation will be necessary, as required by CERCLA. There are no buildings on this Vicinity Property.

FY 2004 funds were used to continue the Linde Soils remedial action, initiate demolition activities for the Building 14 operable unit, and prepare a draft remedial investigation/feasibility study on the Groundwater operable unit.

In FY 2005, the Corps continues the Linde soils operable unit remedial action, completes a Remedial Investigation/Feasibility Study and Proposed Plan for the Groundwater operable unit; completes demolition and removal of Building 14; and completes the Remedial Investigation Report at the Tonawanda Landfill and Mudflats Vicinity Property.

FY 2006 funds will be used to continue the Linde soils operable unit remedial action and complete the Record of Decision on the Groundwater operable unit.

The schedule for completion of site remediation is to be determined.**

**The completion schedule will depend on overall funding constraints, and the results of the Groundwater operable unit investigation and Record of Decision.

APPROPRIATION TITLE: Formerly Utilized Sites Remedial Action Program, Fiscal Year 2006 — Great Lakes and Ohio River Division

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Requested Allocation FY 2006 $	Balance to Complete After FY 2006 $
Niagara Falls Storage Site Lewiston, NY Buffalo District	319,220,000 - 425,620,000*	39,643,000	2,150,000	2,600,000	274,827,000 -381,227,000

The Niagara Falls Storage Site is a 191-acre Federally-owned site with: a below ground interim repository for radioactive residues and waste; several buildings, one of which contains isolated areas of fixed, low activity radioactive contamination; and several vicinity properties (VPs). It is located in Lewiston Township, 19 miles northwest of Buffalo, NY. Material stored in the repository includes 234,770 cy of low activity radioactive waste and 14,390 cy of high activity radioactive residues. The repository is covered with an interim cap designed to retard radon emissions and rainwater infiltration. Yearly fixed costs cover cap maintenance and site monitoring and security.

FY 2004 accomplishments include continued progress on the Remedial Investigation (RI) report, initiation and progress on the PRP study, completion of a site security review, and continuation of yearly site maintenance, monitoring and surveillance activities. Also continued was community outreach through interaction with the Restoration Advisory Board.

FY 2005 funds are being used to continue the RI including the risk assessment, fate and transport assessment, the draft RI report and the potentially responsible party study. Maintenance, monitoring and surveillance activities will continue to assure integrity of the waste containment structure and community outreach will continue.

FY 2006 funds will be used to conclude the RI report, continue work on the feasibility study, and continue maintenance, monitoring and surveillance activities, and community outreach.

The schedule for completion of site remediation is to be determined.**

*The total cost will depend upon the specific cleanup standards established for this site, taking into account input from federal, state, and local regulators, the general public, and other stakeholders. Once a final cleanup plan for the site has been approved in a Record of Decision, it will be possible to provide a more definitive estimate. The current cost estimate assumes that some action will be taken to address the entire site. The Feasibility Study will also evaluate a number of options, including the feasibility of leaving the containment structure intact for transfer to DOE for Long-term Stewardship under the MOU between the Corps and DOE. Selection of this alternative would likely result in a lower overall cost for the FUSRAP completion.

** The completion schedule will depend on the cleanup standards established for this site and overall funding constraints.

APPROPRIATION TITLE: Formerly Utilized Sites Remedial Action Program, Fiscal Year 2006 — Great Lakes and Ohio River Division

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Requested Allocation FY 2006 $	Balance to Complete After FY 2006 $
Seaway Industrial Park, Tonawanda, NY Buffalo District	33,484,000 - 63,984,000*	7,945,000	335,000	800,000	24,404,000- 54,904,000*

The Seaway Landfill, a closed sanitary landfill, is a privately owned 93-acre site in the Town of Tonawanda, 3 miles north of Buffalo, NY that is contaminated, principally on 16 acres, with radiological waste, including thorium, uranium and radium. The waste that was disposed of at the site originated at the Linde Air Products plant, where uranium ore was processed. There are four areas associated with the Seaway Site - Areas A, B, C and D. Clean up of accessible (outside of the landfill) Area D soils was included in the Record of Decision for the remediation of Ashland 1 and Ashland 2. The project is being coordinated with the New York State Department of Environmental Conservation, the New York State Department of Health, and the U.S. Environmental Protection Agency.

In FY 2004, the Corps continued work on a Feasibility Study Addendum, which included additional characterization of the Areas A, B and C, and incorporates additional soil volume left from the Ashland 1 remedial action in the vicinity of Seaway Area D (termed the “southside”).

In FY 2005, the Corps completes the Feasibility Study Addendum and develops the Proposed Plan.

FY 2006 funds will be used to complete the Proposed Plan, conduct public review and initiate work on the Record of Decision.

The schedule for completion of the site remediation is to be determined.**

*The total cost will depend upon the specific cleanup standards established for this site, taking into account input from federal, state, and local regulators, the general public, and other stakeholders. Once a final cleanup plan for the site has been approved in a Record of Decision, it will be possible to provide a more definitive estimate. The first estimate represents the cost for the containment alternative, and the second represents the cost for partial excavation.

**The completion schedule will depend on the cleanup standards established for the site and overall funding constraints.

APPROPRIATION TITLE: Formerly Utilized Sites Remedial Action Program, Fiscal Year 2006 Great Lakes and Ohio River Division

OHIO

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Requested Allocation FY 2006 $	Balance to Complete After FY 2006 $
Former Harshaw Chemical Company, Cleveland, OH Buffalo District	38,970,000 – 51,950,000*	6,945,000	1,300,000	2,000,000	28,725,000 – 41,705,000

The former Harshaw Chemical Company is a privately owned, 40-acre site located approximately 5 miles southwest of downtown Cleveland, Ohio. The area is predominately an industrial setting bordering the Cuyahoga River. From 1944 through 1959, the Manhattan Engineering District (MED) and the Atomic Energy Commission (AEC) contracted Harshaw for the purpose of supporting the Nation's early atomic energy program. Various forms of uranium were produced for shipment to Oak Ridge, Tennessee, for isotopic separation and enrichment. In 1960, the site was released for unrestricted use by the AEC, following decontamination efforts by Harshaw, under the guidance of the AEC. The project is being coordinated with the Ohio Environmental Protection Agency and the Ohio Department of Health.

FY 2004 funds were used to initiate the second phase of the Remedial Investigation (RI).

In FY 2005, the Corps continues the RI by completing the second phase of investigation and initiating the Baseline Risk Assessment, and initiates the Feasibility Study (FS).

FY 2006 funds will be used to complete the RI, continue the FS, and complete the Potentially Responsible Party (PRP) investigation.

The schedule for completion of the site remediation is to be determined.**

*The total cost will depend upon the specific cleanup standards established for this site, taking into account input from federal, state, and local regulators, the general public, and other stakeholders. Once a final cleanup plan for the site has been approved in a Record of Decision, it will be possible to provide a more definitive estimate.

** The completion schedule will depend on the cleanup standards established for this site and overall funding constraints.

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Requested Allocation FY 2006 $	Balance to Complete After FY 2006 $
Luckey Site Luckey, OH Buffalo District	136,110,000 - 181,490,000*	14,161,000	305,000	175,000	121,469,000– 166,849,000

The Luckey Site is a privately owned 40-acre site located approximately 22 miles southeast of Toledo, Ohio. FUSRAP contamination on site consists of both radiological and chemical wastes. The primary radiological contaminants at the site include radium, uranium and thorium. The primary chemical contaminants at the site are beryllium and lead. In 1949, the Atomic Energy Commission constructed a beryllium production facility at the site. The waste solutions and sludge from the beryllium production operations were stored in lagoons on the plant property. Waste solutions were also discharged into Toussaint Creek. In 1951 and 1952, the site operator purchased 1,000 tons of radiologically contaminated scrap steel from the Lake Ontario Storage Area. The scrap steel is believed to be the source of the radiological contamination. In 1958, beryllium production operations ceased. The Luckey project is being coordinated with the Ohio Environmental Protection Agency and Ohio Department of Health.

FY 2004 funds were used to draft the Record of Decision (ROD) and conduct annual groundwater sampling.

In FY 2005, the Corps completes the ROD and conducts annual groundwater sampling.

FY 2006 funds will be used for general project coordination and management activities, and to conduct annual groundwater sampling.

The schedule for completion of the site remediation is to be determined.**

*The total cost will depend upon the specific cleanup standards established for this site, taking into account input from federal, state, and local regulators, the general public, and other stakeholders. Once a final cleanup plan for the site has been approved in a Record of Decision, it will be possible to provide a more definitive estimate.

** The completion schedule will depend on the cleanup standards established for this site and overall funding constraints.

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Requested Allocation FY 2006 $	Balance to Complete After FY 2006 $
Painesville Site Painesville, OH Buffalo District	19,000,000 – 22,800,000*	8,620,000	1,630,000	4,075,000	4,675,000- 8,475,000

The Painesville Site is a privately owned 30-acre site located approximately 22 miles east of Cleveland, Ohio. In the early 1940's, the Defense Plant Corporation financed construction of a magnesium production facility on property acquired by the Federal Government. The Diamond Magnesium Company received approximately 1,650 tons of FUSRAP-related radiologically contaminated scrap steel from the Lake Ontario Storage Area, which resulted in contamination of the site. The site is contaminated with radiological waste, including uranium, radium, thorium, and decay products. The site is currently owned by the Crompton Manufacturing Company, Inc., which closed this facility in July 1999. They have demolished the plant and are performing environmental remediation for chemical contamination. 1,330 cubic yards of contaminated soils were removed from the site in the fall of 1998 under an Engineering Evaluation/Cost Analysis (EE/CA). The Corps initiated a focused Remedial Investigation/Feasibility Study (RI/FS) to determine the extent of additional contamination and establish the final cleanup criteria. The project is being coordinated with the Ohio Environmental Protection Agency and Ohio Department of Health.

FY 2004 funds were used to develop a Feasibility Study Addendum and draft the Proposed Plan for remediation.

In FY 2005, the Corps completes the Proposed Plan and the Record of Decision (ROD), and begins remediation.

FY 2006 funds will be used to continue the remedial action.

The schedule for completion of site remediation is to be determined.**

*The total cost will depend upon the specific cleanup standards established for this site, taking into account input from federal, state, and local regulators, the general public, and other stakeholders. Once a final cleanup plan for the site has been approved in a Record of Decision, it will be possible to provide a more definitive estimate.

**The completion schedule will depend on the cleanup standards established for this site and overall funding constraints.

APPROPRIATION TITLE: Formerly Utilized Sites Remedial Action Program, Fiscal Year 2006 Great Lakes and Ohio River Division

PENNSYLVANIA

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Requested Allocation FY 2005 $	Balance to Complete After FY 2005 $
Shallow Land Disposal Area (SLDA) Parks Township, PA Pittsburgh District	TBD*	6,110,000	1,400,000	1,410,000	TBD*

The Shallow Land Disposal Area (SLDA) site encompasses 44-acres of land located in Parks Township, Pennsylvania located about 23 miles northeast of Pittsburgh, Pennsylvania. A nuclear fuel production facility located in Apollo, Pennsylvania generated wastes that were emplaced into a series of 10 trenches at the Shallow Land Disposal Area (SLDA) from the period 1960 to 1970. The contamination is believed to consist primarily of uranium and thorium associated with production of nuclear materials at the Apollo facility. The 10 trenches occupy an area of about 1.2 acres of the 44-acre Shallow Land Disposal Area. The site is currently owned by BWX Technologies and operates under a Nuclear Regulatory Commission (NRC) license. Any future U. S. Army Corps of Engineers (USACE) activities at the site will be consistent with the Memorandum of Understanding (MOU) between the USACE and the NRC for coordination on cleanup and decommissioning of the FUSRAP sites with NRC-licensed facilities, dated July 5, 2001.

In FY 2004, the Corps completed Remedial Investigation (RI) field work and initiated the Feasibility Study (FS).

In FY2005, funds will be used to complete the RI Report, the FS, and initiate the Proposed Plan (PP).

In FY 2006, funds will be used to complete the PP and the Record of Decision.

*To Be Determined (TBD). A preliminary cost estimate for site remediation will be determined at completion of the Remedial Investigation phase.

APPROPRIATION TITLE: Formerly Utilized Sites Remedial Action Program, Fiscal Year 2006

NATIONAL

Site	Total Estimated Federal Cost $	Allocation Prior to FY 2005 $	Allocation FY 2005 $	Requested Allocation FY 2006 $	Balance to Complete After FY 2006 $
Potential Sites	TBD*	774,000	1,000,000	1,000,000	TBD*

The Department of Energy (DOE) considered several hundred sites in the public and private sectors for the potential for residual radioactive contamination as a consequence of work accomplished in support of nuclear energy technology development that began in the early 1940s by the Manhattan Engineer District (MED). Of these considered sites, a limited number initially were designated for remediation under FUSRAP and the others were eliminated from further consideration at that time. Thereafter, the DOE notifies the Corps of new information changing the status of eliminated sites to that of eligible according to FUSRAP criteria.

FY2006 funds will be used to complete preliminary assessments at a number of sites referred by DOE, and if necessary, site inspections or other activities to determine if there is a release or threat of a release of a hazardous substance into the environment that will present an imminent and substantial danger to public health or welfare, and whether the site should be added to FUSRAP for further study and remediation.

*To Be Determined (TBD). Any new sites added to FUSRAP as a result of the preliminary assessment/site inspection performed with these funds will be included in future budgets.

Justification Of Estimates for Civil Functions Activities
Department of the Army, Corps of Engineers
Fiscal Year 2006
($000)

APPROPRIATION TITLE: General Expenses

	FY 2005 Allocation*	FY 2006 Request	Change FY 2005-2006	Percent Change
1. Executive Direction and Management				
a. Headquarters, U.S. Army Corps of Engineers				
Baselevel Operating Expenses	$ 55,216	$ 56,500	$ 1,384	2.5%
Civil Works Program Accounts**	18,227	12,700	-5,527	-30.3%
Total	$ 73,443	$ 69,300	$ -4,143	- 5.6%
b. Major Subordinate Commands	$ 69,445	$ 69,924	$ 479	0.7%
2. Other Activities				
a. U.S. Army Engineer Research & Development Center (ERDC)	212	$ 212	$ 0	0%
b. Humphreys Engineer Center Support Activity	$ 17,356	$ 17,356	$ 0	0%
c. Institute for Water Resources	$ 4,443	$ 4,443	$ 0	0%
d. USACE Finance Center	$ 765	$ 765	$ 0	0%
TOTAL:	$ 165,664	$ 162,000	$ -3,664	-2.2%

*FY05 Allocation based on the Omnibus rescission of 0.8 percent.
**FY06 detail on next page.

APPROPRIATION TITLE: General Expenses

1. Executive Direction and Management

a. Headquarters, U.S. Army Corps of Engineers	FY 2005 Allocation	FY 2006 Request
(1) Baselevel Operating Expenses:	$ 55,216,000	$ 56,600,000
(2) Civil Works Program Accounts:	18,227,000	12,700,000
	$ 73,443,000	$ 69,300,000

The Headquarters, U.S. Army Corps of Engineers is responsible for providing policy, guidance, and oversight of a comprehensive Civil Works Program. This mission is decentralized across the Corps of Engineers in 37 districts, 8 major subordinate commands (MSCs), and several field operating activities. The Headquarters, U.S. Army Corps of Engineers assists field commands by providing policy formulation and oversight, national programs management, preparation of the annual budget and legislative submission, national and international interface, management of high interest or controversial projects or issues, resource analysis and distribution, oversight of execution, and performance measurement. In addition to the traditional Civil Works mission, beginning in FY 98, the Chief of Engineers was given responsibility for the Formerly Used Sites Remedial Action Program (FUSRAP) previously managed by the Department of Energy.

The amount requested for the Headquarters, U.S. Army Corps of Engineers for FY 06 consists of two components: the baselevel operating expenses of $56,600,000; and the Civil Works Program Accounts amounting to $12,700.000. The Program Accounts were established in FY 95 as an outgrowth of disestablishing the Centralized Accounts, which were centrally managed at headquarters and billed back across the Corps. For expediency purposes, those activities essential to supporting the Civil Works mission were deemed appropriate for direct-funding from the General Expenses account and were presented in detail in the FY 96 budget justification data. Activities funded in the Program Accounts for FY 06 consist of: Improving Technical Capabilities $3.4M; Guidance Maintenance Program $2.9M; Automated Information Systems $1.1M; Leadership/Employee Development $1.6M; Implementing Competitive Sourcing $2.5M; E-government Initiatives $0.7M; Professional Conferences/Organizational Support $0.4M; and Remaining Items $0.1M. These activities undergo close scrutiny by the USACE leadership to ensure they meet the criteria for Program Account funding and are minimally funded to meet essential Civil Works Program mission needs.

The Corps is continuing its efforts to streamline the executive direction and management (ED&M) functions at all levels. The Headquarters staffing level for FY 05 is 402 FTE. This level is 17.5% below the FY 97 level of 487.

The breakout of cost differences for the Headquarters by category of expenses is shown below.

Change	
$ 1,305,000	Personnel Compensation and Benefits
- 361,000	Travel and Transportation
- 88,000	Rent, utilities, and communications
- 4,934,000	Training, ADP and Other Contractual Services (CFO Audit will be fully funded out of the revolving fund instead of the General Expenses account for FY06 and beyond.)
- 65,000	Printing, Supplies and Equipment
$ - 4,143,000	

1. **Executive Direction and Management** (Continued)

a. Headquarters, U.S. Army Corps of Engineers (Continued)

Cost differences: The FY 06 budget reflects a flat staffing level in the Headquarters of 402 FTE including the nationalized positions , which started with the 2012 reorganization in FY 04. The $69,300,000 requested for expenses of the Headquarters, U.S. Army Corps of Engineers, includes $50,501,000 for personnel compensation and benefits for civilian personnel and military officers, and $17,799,000 for other costs. The other costs include:

$ 1,536,000	Travel and transportation
374,000	Rent/Communications/Utilities
15,616,000	ADP, Training, and Other Contractual Services
273,000	Printing, Supplies and Equipment
$ 17,799,000	

b. Major Subordinate Commands

FY 2005 Allocation	FY 2006 Request
$69,445,000	$69,924,000

Major subordinate commands (MSC) provide the managerial and technical direction required for supervision of subordinate district offices and coordination of regional activities necessary to execute the Civil Works Program. The Executive Direction and Management activities are currently decentralized to 8 MSC throughout the United States.

The current staffing level in the division offices is 476 FTE. This staffing level will support an average civil staffing per division of 65 FTE, with the exception of the Pacific Ocean Division, which has a primarily military mission.

The breakout of cost differences for the Division Offices by category of expenses is shown below.

Change	
$ 1,385,200	Personnel compensation and benefits
- 243,000	Rent, utilities, and communications
- 60,000	Printing and reproduction, supplies and equipment
- 195,000	Travel and transportation
- 408,000	ADP, training, and other contractual services
$ 479,000	

1. Executive Direction and Management (Continued)

b. Major Subordinate Commands (Continued)

Cost Differences: The $69,924,000 requested includes $54,664,000 for personnel compensation and benefits for civilian and military personnel, and $15,260,000 for other costs. Labor costs reflect increases reflect budgeted pay raises. Other costs include:

$ 4,083,000	Rent, communications, and utilities
3,360,000	Travel and transportation
959,000	Printing and reproduction, supplies and equipment
6,858,000	ADP, training, and other contractual services
$ 15,260,000	

2. Other Activities

FY 2005 Allocation	FY 2006 Request
$22,776,000	$22,776,000

Other activities include: the Humphreys Engineer Center Support Activity (HECSA) which provides administrative support to Corps tenants of the Humphreys Engineer Center and to Corps headquarters; the Institute for Water Resources (IWR) which provides a variety of water management functions such as conducting and managing national studies, special studies in support of the Civil Works mission, data collection and distribution, and technical support to other Corps offices in matters dealing with water resource management; the Engineer Research and Development Center (ERDC) which provides support to the Coastal Engineering Research Board (CERB); and the US Army Corps of Engineers Finance Center (UFC) provides centralized finance and accounting activities. These activities reduced their staffing from 131 FTE in FY 00 to 119 FTE starting in 2004.

The amount requested for these activities for FY 06 is $22,776,000, which is no change from the FY 05 allocation.

APPROPRIATION TITLE: General Expenses

2. Other Activities (Continued)

Changes	
$ 271,000	Personnel compensation and benefits.
- 91,000	Rent, utilities, and communications.
- 161,000	ADP, Training and other contractual services
- 14,000	Printing, Supplies and Equipment
- 5,000	Travel and Transportation
$ 0	

Cost Differences: Breakdown of the total $22,776,000 request for these support activities includes $10,683,000 for personnel compensation and benefits for civilian and military personnel and $12,093,000 for other costs. The other costs include:

$ 3,950,000	Rent, communications, and utilities (also includes HQ payments, since HECSA is HQ Spt Cmd)
415,000	Travel and transportation of goods
645,000	Printing and reproduction, supplies and equipment
7,083,000	ADP, training, other contractual services (includes PRIP payback)
$12,093,000	

APPROPRIATION TITLE: Revolving Fund- Plant Replacement and Improvement Program (PRIP)

1. Explanation of Revolving Fund. The Revolving Fund, established by Congress in 1953 (P.L. 83-153, 67 Stat. 199), replaced the Plant Allotment Account authorized by the Secretary of War, on 13 December 1934, which had in turn replaced the Plant Program - Appropriation Basis that was used prior to 1934. Prior to the establishment of the Revolving Fund, accounting procedures necessitated by the two previous systems were cumbersome resulting in a distorted picture of costs when plant items were transferred from one appropriation to another. The Revolving Fund, Plant Replacement and Improvement Program (PRIP), has proven to be an effective means of providing equipment and materials needed on more than one project. Some advantages of the system are: (1) Simplifies funding and accounting procedures; (2) Provides consideration for plant replacement costs and inflation; (3) Eliminates distorted project costs when plant is used on multiple projects throughout its economic life; and (4) Permits plant availability in a timely manner to meet mission requirements.

a. Essentially, P.L. 83-153 empowered the Revolving Fund to assume the total capital value of $127.9 million in 1953, consisting of the unexpended cash balance ($25.3 million) and the net value ($102.6 million) of the assets and liabilities of the plant accounts, and to perform all future services, as a separate entity, within its own resources.

b. The Revolving Fund operates within its own resources rather than from recurring annual appropriations. The capital fund owns land, structures, dredges, floating plant, aircraft, fixed and mobile land plant, tools, office furniture, special equipment, computers and automated systems, which serve two or more, projects or appropriations. In order for the Revolving Fund to acquire and replace assets, plant or equipment items, it is necessary that the user, project or appropriation be charged a fee when equipment or services are consumed. This fee consists of operating and fixed costs. Operating costs are reimbursed without a surcharge. Fixed costs include straight-line depreciation and a PRIP surcharge to provide for price growth and inflation of replacement items. When planned expenditures exceed the income producing capability of the capital fund, additional annual appropriations are requested.

c. The capital fund value or corpus is the total assets, less liabilities and reserves. When the Revolving Fund was established, Congress authorized a corpus limitation of $140.0 million. The initial limitation was adequate until 1965, when rising workload and inflation forced the Corps of Engineers to begin requesting annual increases to the corpus limitation. These requests generally were granted because; the limitation hindered the income generating capability, which in turn adversely affected the overall management, of the Fund. Therefore, the Corps recommended and Congress granted a request in FY 1979, that an annual capital-expenditure ceiling be substituted for the corpus limitation. Then in FY 1985, the expenditure ceiling was replaced by an estimate of expenditures. Starting in FY 1994, the Corps replaced the estimate of expenditures with an estimate of obligations in accordance with recommendations by the General Accounting Office.

2. The Revolving Fund accounts for facilities, payroll and operations throughout the U.S. Army Corps of Engineers at its divisions, districts, separate field offices and laboratories including its Engineer Research and Development Centers like the Waterways Experiment Station. The fund incurs expenses for acquisition, rehabilitation, operation and maintenance of multiple use structures such as warehouses, shops and garages, as well as, general-purpose plant, such as dredges, tugs, launches, trucks, cranes, bulldozers, drill rigs and other construction equipment. Also, it provides for reimbursement of the general and administrative expenses of District, laboratory and field offices.

3. The FY 2006 Corps Revolving Fund, PRIP, includes ten New Major Items and forty-nine Continuing Major Items from FY 2005. Four Continuing Major Items have revised cost estimates in excess of ten percent. The charts below provide cost estimates for the New Major Items and the revised cost estimates in excess of ten percent for the Continuing Major Items.

APPROPRIATION TITLE: Revolving Fund- Plant Replacement and Improvement Program (PRIP)

New Major Items	Page	Total Estimated Cost ($000)
1. Shallow Draft Dredge Replacement (Wilmington District)	147	10,300
2. Dredge ESSAYONS – Replacement of Engine Room Instrumentation, Control and Monitoring System (Portland District)	147	1,549
3. Motor Vessel (MV) W-46 Replacement (New Orleans District)	151	1,740
4. Motor Vessel (MV) VOLLERT Replacement (Galveston District)	151	700
5. Motor Vessel (MV) KING Replacement (Galveston District)	151	700
6. Survey Boat RODOLF Replacement (Portland District)	151	970
7. Survey Boat HICKSON Replacement (Portland District)	151	1,770
8. Crane (Rubber Tired) Replacement (Rock Island District)	152	675
9. Motor Vessel (MV) RACOON Replacement (San Francisco District)	152	2,115
10. District Radio System Replacement (Portland District)	156	840
11. Environmental Laboratory, Fourier Transform Ion Cyclotron Resonance Ion Tran Mass Spectrometer (Waterways Experiment Station)	157	1,013
		22,372

Continuing Major Items with Revised Cost Estimates in excess of 10%	Page	Previous Estimated Cost ($000)	Revised Estimated Cost ($000)	Total Cost Increase ($000)
1. Maintenance Gate Barge and Spare Gates (Rock Island District)	154	4,710	5,787	1,077
2. Crane Barge KEWANEE Replacement (Rock Island District)	154	5,010	9,175	4,165
3. Motor Vessel (M/V) LIPSCOMB Replacement	155	8,546	9,296	750
4. Ouachita-Greeson-Degray Project Management Office	158	3,208	3,570	362
		21,474	27,828	6,354

PRIP Category	Page
Land and Structures	146
Dredges	147
Other Floating and Mobile Land Plant	151
Fixed Land Plant and Automated Systems	156
Tools, Office Furniture and Equipment	157

APPROPRIATION TITLE: Revolving Fund- Plant Replacement and Improvement Program (PRIP)

4. FY 2005 and FY 2006 (Items costing $700,000 or more)

a. Land and Structures:

(1) Renovate Docks A and B – U.S. Moorings - Portland District (Continuing). Refurbishing Docks A and B would bring it up to modern load bearing standards. The U.S. Government moorings facility, Docks A and B has been in existence since 1903 to provide berthing during the winter repair period for fleet hopper dredges ESSAYONS and YAQUINA. The last major refurbishment of the docks was in 1964. Since then, the dock surfaces have been re-decked and shear piles replaced periodically due to normal wear and tear. Unfortunately, the stringers have rotted and several pile cap timbers have extensive dry rot up to four feet back from the exposed ends. **Total estimated cost: $3,408,000.** FY 2005: $263,000 to initiate design. FY 2006: $263,000 complete design. Future Years: $2,882,000 for construction.

(2) Port Arthur Bulkhead Replacement - Galveston District (Continuing). Replace the Port Arthur boat basin bulkhead and breakwater. The 51-year-old structure is used to provide docking and mooring facilities for the Port Arthur Residence Office floating plant whose primary mission is to maintain the Sabine-Neches Waterway. The bulkhead was constructed with salvage sheet piling, which has become corroded and has severe lamination over much of its surfaces. Holes in the sheet piling have caused sinkholes behind the bulkhead. In addition, the boat basin cannot prevent wave action from coming into the basin. **Total estimated cost: $1,131,250.** Through FY 2003: $100,000 to initiate design. FY 2005: $1,031,100 to complete design and construction.

(3) Environmental Laboratory, Buildings 3296 and 3284 – Waterways Experiment Station (Continuing). Additions and betterments are required to enable consolidation of the staff in a central location for maximum efficiency. The Environmental Laboratory is dispersed throughout several buildings at four different locations within the Waterways Experiment Station. Management, administration and coordination of research activities are difficult and inefficient under the present arrangement. **Total estimated cost: $9,105,133.** Through FY 2004: $372,650 to initiate design. FY 2004: $168,300 to complete design. FY 2005: $8,716,800 to initiate construction. FY 2006: $15,683 to complete construction.

(4) Coastal and Hydraulic Laboratory Headquarters Building – Waterways Experiment Station (Continuing). Make additions and betterments to the present Coastal Hydraulics Laboratory complex of buildings to enable full and complete consolidation of all personnel and equipment under one roof for maximum efficiency. The U.S. Army Waterways Experiment Station, Coastal Engineering Research Center and Hydraulics Laboratory were merged in 1996 to form the Coastal and Hydraulics Laboratory, the largest water resources research and development laboratory in the world. The principal objectives of the merger were to foster team approaches to addressing complex water resources issues; to streamline management, eliminate duplication in technical methods, support staff, support systems and infrastructure, and create synergy. Progress has been hampered significantly because the two former organizations remain physically located in their pre-merger buildings approximately .5 miles apart by road. While some goals of the merger have been achieved, management and the administration of the new organization are more complex and less efficient because of the physical separation. These objectives are essential to support of the Corps Civil Works mission. The economic analysis favors additions and betterments compared to the repairing and maintaining based on a savings to investment ratio of 2.23 and a discounted payback period of 10.4 years. The net present value of the additions and betterments is $15.3 million, which is $8 million less than net present value of the repairing and maintaining. **Total cost estimate is $8,521,292.** Through FY 2004: $8,472,880 for design and substantially complete construction. FY 2005: $48,412 to complete construction.

b. Dredges

(1) Dredge FRY Shallow Draft Dredge Replacement - Wilmington District (New). Purchase a new shallow-draft hopper dredge in order to maintain shallow coastal inlets along the Atlantic coast while adhering to environmental restrictions on side cast dredges. The dredge FRY was built in 1944 as a U.S. Navy seaplane wrecking derrick and converted to a side-casting dredge in 1972 when acquired by to Corps. The FRY has a remaining useful life of 9 years but, is virtually worn out and not environmental friendly. Regulatory agencies have restricted its use due to the disturbance created by the discharge of dredge materials. In 2002, the dredge crane failed resulting in emergency maintenance and more downtime. Alternatively a crane replacement (estimated at $2 million) and a propulsion system upgrade (estimated at $1.8 million) would require lengthy shipyard work. The economic analysis supports purchasing a new shallow-draft hopper dredge while NPV of replacement is $17.1 million; NPV of maintaining the FRY is $19.7 million. **Total estimated cost: $10,300,000.** Through FY 2004: $84,000 to initiate design. FY 2005: $100,000 to continue design effort. FY 2006: $100,000 to continue design effort. Future Years: $10,016,000 to initiate and complete construction.

(2) Dredge ESSAYONS – Replacement of Engine Room Instrumentation, Control and Monitoring System - Portland District (New). Replace the engine monitoring and control system during the current overhaul effort (see #9) in order to properly monitor the new power plant being installed. The existing control and monitoring system on the dredge ESSAYONS is becoming unsupportable due to non-availability of spare parts. It is a hard card system, totally inflexible and not upgradeable. The dredge ESSAYONS is being repowered in 2008. Without the system in operating order, the dredge ESSAYONS will not be able to carry out its mission. **Total estimated cost: $1,549,000.** FY 2005: $10,000 to initiate design. FY 2006: $1,330,000 to complete design and initiate construction. Future Years: $209,000 to complete construction.

(3) Dredge McFARLAND – Overhaul - Philadelphia District (Continuing). Repower the dredge McFARLAND. The dredge McFARLAND, home-ported in Philadelphia, PA and assigned to maintain ports and harbors along the Atlantic and Gulf Coasts is one of four seagoing hopper dredges that comprise the minimum fleet, authorized by Public Law 95-269 and the only dredge in the world with triple capability for direct pump out, bottom discharge and side casting. Built in 1967, the McFarland has not undergone any major alterations since being placed in service. Repair efforts have become more intensive and cumbersome as technological advances replace other systems onboard the dredge. Repair parts and troubleshooting expertise are increasingly more scarce and expensive to acquire. In addition, repowering the vessel and bringing it up to date with state of the art technology would enable the vessel to operate more efficiently and meet restrictions on exhaust emissions, similar to those in California. Total estimated cost: $20,000,000. Through FY 2004: $10,000 to initiate design. FY 2005: $2,090,000 to complete design. FY 2006: $15,000,000 to initiate construction. Future Years: $2,850,000 to complete construction.

(4) Dredge MERRITT – Replacement of Side Casting Propulsion System - Wilmington District (Continuing). Convert the side-casting propulsion system to a twin hydraulic outboard propulsion thruster system in order to increase dredging efficiency by 10 percent and to enable dredging across shallower shoals, dredging in both directions and better maneuverability. The dredge MERRITT was converted from a U.S. Navy seaplane wrecking derrick to a side-casting dredge when acquired by to Corps in 1964. Its propulsion system is twin diesel but has had frequent emergency repairs to shafts, propellers and rudders. **Total estimated cost: $1,800,000.** FY 2005: $1,000,000 for design and initiate construction. FY 2006: $800,000 to complete construction.

(5) Dredge JADWIN – PONTOON Pipeline Replacement - Vicksburg District (Continuing). Acquire floating discharge pipeline pontoon barges to replace the discharge pipeline originally furnished with the dredge JADWIN. The dredge JADWIN was built in 1933 and works on the Mississippi River. This pipeline is over 70 years old with maintenance and repair costs increasing to keep it serviceable; the normal economic life of a pipeline is 25 years. **Total estimated cost: $4,215,000**. Through FY 2004: $60,000 to initiate design. FY 2005: $50,000 to continue design effort. FY 2006: $3,200,000 to complete design and initiate construction. Future Years: $905,000 to complete construction.

(6) Dredge JADWIN – Anchor Barge Replacement - Vicksburg District (Continuing). Acquire a new anchor barge to provide the same handling services but operate more efficiently, with less maintenance, and comply with safety requirements. The existing barge is 75-years-old, far exceeding its normal economic useful life of 40 years. The new barge will be used to support the dredge JADWIN on the Mississippi River. **Total estimated cost: $1,120,000.** Through FY 2004: $45,000 to initiate design. FY 2005: $810,000 to complete design and initiate construction. FY 2006: $250,000 to substantially complete construction. Future Years: $15,000 to complete construction.

(7) Dredge ESSAYONS Bow Discharge System Replacement MDC 2576 – Portland District (Continuing). **R**eplace the Bow Discharge System on the dredge ESSAYONS to improve the mission capability, expand its usefulness, allow for safer operations and more efficiently support the full range of current and future dredging projects. The original side-mounted pump-ashore connections on the dredge ESSAYONS are no longer the industry standard to conduct pump-ashore projects. The existing connection system is not suitable for safe operations in areas exposed to wave action, such as Benson Beach at the mouth of the Columbia River, or beach replenishment projects of southern California. Modern hopper dredges use over the bow pump-ashore connections that are safer and more efficient for working in all conditions. There are pump-ashore projects being developed in Portland, Seattle, San Francisco and Los Angeles, which will require the dredge ESSAYONS. Benefit/Cost ratio is 25.5 to 1. **Total estimated cost: $795,000**. Through FY2004: $30,000 to initiate design. FY2005: $670,000 to complete design and initiate construction. FY 2006: $35,000 to substantially complete construction. Future Years: $60,000 to complete construction.

(8) Dredge YAQUINA Repowering MDC 2507- Portland District (Continuing). Repower the vessel with new, modern, low emission, diesel engines allowing the dredge YAQUINA to operate efficiently well into the future and in compliance with emission restrictions. The original engines are no longer manufactured, parts are becoming very difficult to obtain and in need of replacement. The engines have been overhauled many times and will fail in 3-5 years causing the dredge to be removed from service. Their 1970's technology was not designed with low emissions as a consideration. The dredge YAQUINA was put in service in 1981 and its primary mission is dredging shallow draft to maintain the entrance bars and harbors along the West Coast of the United States, Alaska and Hawaii. The YAQUAINA is one of four seagoing hopper dredges that comprise the minimum fleet, authorized by public law 95-269 and a U.S. Coast Guard certified vessel capable of going anywhere in the world. During the dredging season, the vessel operates 24 hours per day, seven days per week. In addition, the areas dredged along the California coast have emission restrictions and require permits. It would take approximately three years to repower the existing engines at a loss of revenue equal to $25.6 million as compared to new engines at a total cost of $8.9 million. Benefit/Cost Ratio is 2.9 to 1. Total estimated cost: $8,957,000. Future Years: $8,957,000 for design and construction.

(9) Dredge ESSAYONS Repowering MDC 2548 - Portland District (Continuing). Install new, more efficient, low emission diesel engines to save fuel, reduce the crew size and lower permitting (air resources board) cost. The original engines have been in service for 20 years, rebuilt numerous times, and are near the end of their economic lives. The engines do not lend themselves to effectively decrease exhaust emissions and to comply with emission standards. The engines will fail and the dredge would be removed from service without the repowering. The dredge ESSAYONS is one of four seagoing hopper dredges that comprise the minimum fleet, authorized by public law 95-269 and a U.S. Coast Guard certified vessel capable of going anywhere in the world. During the dredging season, the vessel operates 24 hours per day, seven days per week with primary mission dredging harbors and coastal regions along the West Coast of the United States,

Alaska and Hawaii. It would take approximately three years to repower the existing engines at a loss of revenue equal to $46.9 million as compared to new engines at a cost of $21 million. Benefit/Cost Ratio is 2.23 to 1. **Total estimate cost: $21,000,000.** Through FY2004: $735,100 to initiate design. FY2004: $400,000 to continue design effort. FY 2005: $50,000 to complete design. FY 2006: $20,000,000 to initiate construction. Future Years: $214,900 to complete construction.

(10) Dredge POTTER Floating Pipeline Replacement MDC 2515 – St. Louis District (Continuing). Replace 19 pontoons carrying a floating pipeline, each with a 54-foot length of 32-inch-diameter dredge discharge pipe, for up to 1,000 feet, used to transfer dredge materials outside the navigation channel. The pontoons provide transport and support of the pipe during operations of the dredge POTTER along the Mississippi River. The pontoons are 50 years old and in poor condition requiring annual dry-docking to maintain river worthiness because their hull plating is thin due to wear and age. The pontoons have been replated at least once and above water portions have deteriorated. Repair costs are expected to mount. The economic analysis showed replacement to be the least cost alternative with a NPV of $4.6 million compared to an NPV of $5.6 million for repairing and maintaining. Total estimate cost: $2,600,000. Through FY2004: $2,297,400 for design and initiate construction. FY 2005: $150,000 to continue construction. FY 2006: $129,600 to substantially complete construction. Future Years: $23,000 to complete construction.

(11) Dredge McFARLAND Asbestos/Lead Abatement MDC 2603 – Philadelphia District (Continuing). Abate asbestos and red lead paint to achieve current occupational safety standards in active crew spaces: forward and aft crew quarters (pilothouse, galley etc.); aft engine and machinery rooms; and the forward dredge pump rooms. The dredge McFarland was built in 1967 when both asbestos and red lead paint were in wide use. Asbestos is throughout the McFarland in the fireproof crew space joinery (sheathing, ceiling and paneling); pipe insulation; and structural fireproof insulation on steel bulkheads. Red lead paint was used throughout the ship as the corrosion resistant base primer coat on all interior hull and steel. The aged vessel has asbestos fragments lodged in inaccessible areas behind the joinery panels. The vessel and its crew of 60 have two missions: (1) emergency and national defense dredging worldwide and (2) planned dredging in commercial waterways, mainly federal navigation projects along the Atlantic and Gulf Coasts. **Total estimated cost: $3,500,000.** Through FY 2004: $222,400 to initiate design. FY 2005: $500,000 to complete design. FY 2006: $1,730,000 to initiate construction. Future Years: $1,047,600 to complete construction.

(12) Dredge Tender WAILES Replacement MDC 2521 – Vicksburg District (Continuing). Replace the tender WAILES to current industry standards. The WAILES was built in 1935 and after years of service exhausted its economic life. The WAILES supports operations of the dredge JADWIN by setting anchors, assisting the dredge in staying on-line, setting the landing barge and towing the fuel barge. Dredge Tender WAILES is critical to the execution of the JADWIN's mission maintaining a nine-foot depth in channels of the Mississippi River. It is underpowered and not equipped with flanking/backing rudders severely inhibiting the steering efficiency of the vessel while in the astern or backing mode. In addition, electrical and mechanical systems are unreliable and maintenance costs continue to rise. **Total estimated cost: $2,225,000**. Through FY 2004: $1,789,400 for design and construction. FY 2005: $120,000 to continue construction. FY 2006: $10,000 to substantially complete construction Future years: $305,600 to complete construction.

(13) Dredge WM. A. THOMPSON Replacement MDC 2457– St. Paul District (Continuing). Replace existing plant with a component system consisting of dredge, towboat, quarters barge, and other attendant plant to reduce operating costs and downtime. The aging cutterhead dredge WM. A. THOMPSON was built in 1937 and repowered in 1966. This unique self-propelled vessel has consistently proven itself the most cost-effective method of maintaining the 9-foot Mississippi River navigation channel in accordance with PL95-269. Dredge THOMPSON is used primarily for hydraulic dredging maintaining 284 miles of the Upper Mississippi River from the head of navigation at Minneapolis, Minnesota, to Guttenberg, Iowa. The dredge WM. A. THOMPSON has won competitive sourcing six times from 1979 to 2001 and continues to save more than three million dollars annually. Spare parts are becoming increasingly scarce and critical for major machinery components. Although repowering the vessel would extend the asset life another 30 years, it would not eliminate the eventual need for updating

structure and habitability items. In Dec 2001, an analysis of dredging requirements determined the THOMPSON be replaced with a component system with a cost estimate of $20,797,000. In FY04 the quarters barge was withdrawn ($2,882,500 decrease) and made a separate FY04 Major Item New Start (See # 14). **Total estimated cost: $17,914,500**. Through FY 2004: $17,529,500 for design and to initiate construction. FY 2005: $370,000 to substantially complete construction. FY 2006: $15,000 to complete construction.

(14) Dredge WM. A. THOMPSON Quarters Barge MDC 2593 – St. Paul District (Continuing). Build a quarters barge to accommodate crewmembers onboard; daily shift rotations can be made on schedule thereby reducing overtime; sick leave adjustments are readily adapted to; and there is no risk that the government will not be able to find the necessary rooms in small communities. Galley services will also provide for well-balanced nutritious meals at the same or less cost than the travel order alternative. The dredge Wm. A. Thompson performs maintenance dredging along the Upper Mississippi River from Minneapolis, Minnesota, to St. Louis, Missouri. A new dredge is scheduled to replace the 67-year old dredge in 2006. The Corps of Engineers Most Efficient Organization (MEO) is to dredge 24 hours per day, 7 days a week. This requires crewmembers to work 12-hour shifts for 7 days followed by 7 days off while replacement crews work their 7-day duty. An economic analysis considered two alternatives for providing lodging and meals to crewmembers were considered; put the crew on travel orders and let them stay in commercial facilities, or build a quarters barge. The analysis showed the costs were virtually the same over a 30-year period with the quarters barge providing significantly better management and personnel conveniences to the dredge operations. The quarters barge alternative would cost $36,058,046 (net present value), while the travel order alternative would cost $37,058,462. Total Cost: $14,080,200. Through FY 2004: $350,000 to initiate design. FY 2005: $12,120,000 to complete design and initiate construction. FY 2006: $590,000 to continue construction effort. Future Years: $400,000 to complete construction.

(15) Dredge Ladder Extension for the JADWIN, MDC 2276 - Vicksburg District (Continuing). Extend the spare Hurley dredge ladder from 58' to 108' for the JADWIN to enable maintaining the recently deepened 45' navigation channel from Baton Rouge to New Orleans. Lengthening is required because dredging must be accomplished when river stages are still high in order to maintain the authorized depth at low stages. The present practice is to start dredging as soon as the dredge can reach the river bottom. But, with the 58' ladder, sometimes this allows maintaining only a 250' wide channel increasing the likelihood of collisions and groundings. Using the actual cost to convert the dredge Potter as a model, and the change in scope from a newly constructed 75’ ladder to lengthening of the spare Hurley ladder to 108’, the estimated cost during FY 2002 was revised from $1,090,000 to $8,292,200 ($7,202,200 increase); and in FY 2003 increased by $257,800 revising the total to $8,520,000. Increases made to this project were as the result of a transposition error. The original FY 1999 estimate of $1,090,000 is valid. This action restores project to original approved amount. Modifications will be accomplished during the lay up period, which normally runs from December to June. Total estimated cost: $1,090,000. Through FY 2004: $794,300 for design and initiate construction. FY 2005: $5,000 to continue construction. FY 2006: $230,000 to continue construction effort. Future years: $60,700 to complete construction.

(16) Dredge Ladder Extension for the HURLEY, MDC 2450 - Memphis District (Continuing). Make modifications to increase the dredge depth of the HURLEY from 40' to 75'. This involves lengthening the existing dredge ladder, extending the hull to accommodate the longer ladder, and modifying the ladder hoisting mechanism. As presently equipped, the HURLEY can effectively be utilized only to dredge the shallow draft channel of the Mississippi River. The ladder extension will allow the HURLEY to be used to maintain the deep draft channel from Baton Rouge to New Orleans, extending its useful dredge season to about 250 days per year. E&D identified additional ladder hoisting and forward hull propulsion and maneuverability requirements associated with the longer hull form. This resulted in a revised cost estimate of $11,350,300 ($3,263,000 increase). Modifications will be accomplished during the lay up period, which normally runs from December to June. Total estimated cost: $11,350,300. Through FY 2004: $4,709,200 for design and initiate construction. FY 2005: $5,000 to continue construction. FY 2006: $5,000 to continue construction effort. Future years: $6,631,100 to complete construction.

c. Other Floating and Mobile Land Plant:

(1) M/V W-46 Replacement MDC 2586 - New Orleans District (New). Replace the Motor Vessel W-46 that is used for hydrographic surveying navigable waterways. Due to the age of this vessel that was acquired from the U.S. Customs Department in used condition, maintenance cost are escalating because it has exceeded its 30 years of useful life. The vessel was not designed as a survey vessel and is not well suited for its present mission. The economic analysis shows replacement of the motor vessel to be the least cost alternative with a NPV of $6.2 million compared to repairing and maintaining at a NPV of $6.4 million or NPV of $7.2 million for lease. Total estimated cost: $1,740,000. Through FY 2004: $15,000 to initiate design. FY 2006: $1,110,000 to complete design and initiate construction. Future Years: $615,000 to complete construction.

(2) M/V VOLLERT Replacement – Galveston District (New). Replace the MV VOLLERT, an aluminum-hulled boat acquired in the 1970's, modified in 1980, and at the end of its useful life. The VOLLERT does not readily allow for optimum use of state of the art hydrographic surveying and position equipment. It is subject to frequent breakdowns hindering management of the navigation channel boundaries from Louisiana to the Rio Grande. The VOLLERT supports the dredging mission at area and project offices in Port Arthur, Galveston, Corpus Christi and Brownsville, Texas. The economic analysis showed replacement to be the least cost alternative with a NPV of $1.9 million compared to a NPV of $2.0 to refurbishment and NPV of $3.7 million for lease. Total estimated cost: $700,000. FY 2006: $700,000 to initiate and complete construction.

(3) M/V KING Replacement – Galveston District (New). Replace the MV KING, an aluminum-hulled boat acquired in the 1970's, modified in 1980, and at the end of its useful life. The KING supports the dredging mission at area and project offices in Port Arthur, Galveston, Corpus Christi and Brownsville, Texas. The KING does not readily allow for optimum use of state of the art hydrographic surveying and position equipment; and is subject to frequent breakdowns that hinder management of the navigation channel boundaries that extend from Louisiana on the east to the Rio Grande in the south. The economic analysis showed replacement to be the least cost alternative with a NPV of $1.9 million compared to a NPV of $2.0 to refurbishment and NPV of $3.7 million for lease. Total estimated cost: $700,000. FY 2006: $700,000 to initiate and complete construction.

(4) Survey Boat RODOLF Replacement MDC 2440 – Portland District (New). Replace the Survey Boat RODOLF because the vessel will not support the upcoming Columbia River deepening project. This surface effect ship (SES), placed in service in 1980, has become less reliable. The engines are nearing the end of their economic useful life and will require replacement in the next several years. The rubberized components that make up the SES capability of the vessel are expensive and available solely from the original manufacturer. In fact, some of these specialized and proprietary components no longer are manufactured due to the low demand. The RODOLF does surveys of the Columbia and lower Willamette Rivers up to the Bonneville Dam for the dredges ESSAYONS and YAQUINA, and commercially contracted dredges. Total estimated cost: $970,000. FY 2005: $10,000 to initiate design. FY 2006: $745,000 to complete design and initiate construction. Future Years: $215,000 to complete construction.

(5) Survey Boat HICKSON Replacement MDC 2441 – Portland District (New). Replace the Survey Boat HICKSON, placed in service in 1968, because the engines and ancillary machinery are increasingly unreliable and at the end of their economic useful life. The 36-years old, two-stroke engines lack adequate exhaust conditioning to reduce emissions and greenhouse gases. The hull of the vessel will require extensive repairs in a few years. The HICKSON performs ocean port surveys and dredging along the Oregon coast and is the only survey vessel in the Corps with size and power to transit rough seas between Pacific ports. Total estimated cost: $1,770,000. FY 2005: $10,000 to initiate design. FY 2006: $1,515,000 to complete design and initiate construction. Future Years: $245,000 to complete construction.

(6) Rubber Tire Crane Replacement – Rock Island (New). Acquire a new rubber tired all-terrain crane to replace three cranes, reduce maintenance costs, increase operating capability, and improve efficiency. The existing tracked lattice boom crane and the small rubber tired crane are both over 25 years old. The truck crane does not have the capability to access many of the areas serviced. The proposed 100-ton capacity rubber tired crane is easily transportable to project sites. The all terrain capability allows the machine access to areas, which were previously impossible to reach. The purchase of a new crane NPV is $1.3 million compared to repairing and maintaining NPV of $1.8 million. Total estimated cost: $675,000. FY 2006: $675,000.

(7) M/V RACCOON Refurbishment – San Francisco District (New). Refurbishing the RACCOON, built in 1943, is critical to the drift removal mission of the Corps. Refurbishment would compensate for the deteriorating hull plate, the aging crane, main propulsion system, and major safety issues, thus extending the useful life. After 61 years of service, the RACCOON is approaching the end of her useful life showing a reduced hull thickness that is dangerously thin and in need of immediate repair. In addition, the availability of replacement parts for the main engines, built 1960, and the hydraulic crane, built in 1977, makes repair and maintenance expensive. Ensuring safe passage for all vessels in the San Francisco Bay Area is becoming more critical for the newer, fast ferries and other vessels, such as patrol boats transiting the harbor for Homeland Defense. An economic analysis showed refurbishment to be least cost alternative with a NPV of $2.1 million compared to an NPV of $7.5 million for replacement. Total estimated cost: $2,115,000. FY 2006: $2,115,000.

(8) Peoria Rock Barges (2) MDC 2584 - Rock Island District (Continuing). Acquiring two rock barges will replace three (a 1959 barge and two 1973 barges), which are used to remove dredge material and rock replacement on the Illinois River from Chicago to Beardstown. The decks of these barges are badly cupped and deteriorated from the many years of loading and unloading. In addition, the boxes are bowed and will need extensive work. **Total estimated cost: $2,270,000.** FY 2004: $15,000 to initiate design. FY 2005: $1,450,000 to complete design and initiate construction. FY 2006: $150,000 to continue construction effort. Future Years: $655,000 to complete construction.

(9) M/V PEORIA Replacement MDC 2567 - Rock Island District (Continuing). Replacing the M/V PEORIA, a 40-year-old towboat constructed in 1963, is a safety issue, for without power the vessel could be swept over a dam, or into another vessel, dam or structure. In addition, the thinning hull will need to be re-skinned. Its mission is to tow repair fleet on the Illinois and Inland Waterways. This single crew boat is used to position crane barges for lock and gate work at eight locks and dams. The engine, replaced in 1976, will soon need replaced again. Should the engine fail, the PEORIA has no means to maneuver, and is undersized and underpowered for towing the newer barges and cranes. This Total estimated cost: $6,225,000. Through FY 2004: $10,000 to initiate design. FY 2005: $5,650,000 to complete design and initiate construction. FY 2006: $250,000 to continue construction effort. Future Years: $315,000 to complete construction.

(10) Vessel BLAIR Replacement - Charleston District (Continuing). Replacement of the BLAIR with a mid-size survey vessel would increase the number of survey days by 93% allowing for operation in offshore sea conditions, as well as inshore areas. The BLAIR is a 30-year-old 65-foot ocean going survey vessel used to support projects in three entrance channel harbors, Charleston, Georgetown, and Port Royal, an average of 57 days per year. The vessel has reached the end of its economic useful life and maintenance cost is increasing. In addition, its size prohibits efficient use at inner harbor and shallow projects. Total estimated cost: $601,200. FY 2005: $601,200 to initiate and complete construction.

(11) Dragline D-47 Replacement – Memphis District (Continuing). The acquisition of a crane to replace B-47 will reduce operating cost and ensure the dragline will be available 365 days a year. The Dragline is used for material handling in the repair of Revetment Unit equipment. The Dragline D-47 was purchased in the 1970's with an economic life of 20 years and has no remaining life. Parts are hard to locate; incremental and maintenance costs are excessive. The cost to build a 100-ton capacity-floating derrick is estimated at $4,500,000.00. Rental is not economically feasible. Total estimated cost: $750,000. FY 2005: $750,000 to initiate and complete construction.

(12) Deck Barges Replacement MDC 2588– Omaha District (Continuing). Replace six deck barges built in 1946, which are in very poor condition and marginally watertight integrity. The barge's interior structure has been leaking for the past 15 years. The bottoms, tops and most of the sides have been removed and replaced several times but, due to the extreme rusting of the interior structure this is no longer feasible and beyond economical repair. Their primary purpose is to support the Missouri River Bank Stabilization and Restoration, the Kenslers Bend Bank Stabilization and the Missouri River Fish and Wildlife Mitigation projects. In addition, the deck barges are used to transport silt and sand dredge material on the Missouri River. The barges are at risk of sinking and placing the towboat's crew in an unsafe environment. An economic analysis favored replacement of deck barges with NPV of $3.1 million compared to repairing and maintaining at NPV of $2.5 million. Total estimated cost: $2,650,000. Through FY 2004: $2,307,300 for design and to initiate construction. FY 2005: $265,000 to continue construction. FY 2006: $55,000 to continue construction effort. Future Years: $22,700 to complete construction.

(13) KIMMSWICK Replacement MDC 2551 – St. Louis District (Continuing). Replace the Tender KIMMSWICK, a 34-year-old towboat because the hull plating is thin, the diesel engines are 15 years old and in need of overhaul or replacement. The electrical and mechanical systems on the KIMMSWICK are original parts and unreliable due to age. The Tender KIMMSWICK serves as attendant plant assisting the dredge POTTER along the Mississippi, Illinois, and Kaskaskia Rivers. The KIMMSWICK positions the pipeline, places anchors, and tows the dredge between locations and transports personnel. An economic analysis showed that replacement was the least cost alternative with a NPV of $6.5 million compared to an NPV of $7.7 million for repairing and maintaining. Total estimated cost: $1,810,000. Through FY 2004: $1,630,000 for design and to initiate construction. FY 2005: $110,000 to substantially complete construction. FY 2006: $70,000 to complete construction.

(14) Towboat PATOKA Replacement MDC 2573 – Mobile District (Continuing). Replace the 46-year-old PATOKA towboat because the mission has changed due to replacement of the crane barge with a new 35-ton capacity crane barge @ 50-foot radius. The new mission of the towboat includes maintaining the nine locks and spillways on the Black Warrior and Tombigbee and Alabama River systems. Repairs have kept the towboat operating but have not addressed the age of the hull, piping systems and electrical distribution system. Repowering the PATOKA from the present 680 to the maximum 900 would only provide half the horsepower needed to safely support the new crane barge and attendant plant. The PATOKA is used to provide crew quarters and mobility support for navigation channel maintenance on the Gulf Intercostals Waterway from Pensacola, Florida, east to Apalachicola Bay at the East Pass (Destin), Escambia River, Bayou Chico, and Scipio Creek and on the Apalachicola-Chattahoochee-Flint River system projects in Florida. An economic analysis favors replacement by acquisition with an NPV of $5.2 million was the least costly alternative as compared to lease option with NPV $11.1. Total estimated cost: $5,890,000. Through FY2004: $5,330,600 for design and initiate construction. FY 2005: $360,000 to continue construction. FY 2006: $170,000 to continue construction effort. Future Years: $29,400 to complete construction.

(15) Towboat IROQUOIS Replacement MDC 2297 – Nashville District (Continuing). Replace the IROQUOIS because major maintenance and repair will not allow it to continue service for more than a few years. The IROQUOIS was scheduled for replacement in 1995. The vessel has been seaworthy until recently when major hull components began showing signs of metal fatigue and the effects of 46 years of service. Shipyards could not guarantee how long the major repairs would extend the vessel's life. The vessel lacks the power to push modern floating plant equipment of the repair fleet in high flow conditions, frequently experienced on the 1,170 miles of navigable channels and 14 navigation locks along the Ohio River, Tennessee, and Cumberland Rivers. This poses a severe safety problem to the vessel's crew, attending floating plant, and repair fleet's mission. In addition, the IROQUOIS was designed and constructed before collision bulkheads and double plating for fuel tanks were required and poses an environmental danger should the hull become compromised. The 750 horsepower towboat, constructed in 1955 is used to transport and position floating plant items such as derrick boats, deck barges and dump scows. On several occasions, the IROQUOIS has responded to emergency dredging requests to aid in keeping river traffic moving. Total estimated cost: $4,157,400. Through FY2004: $3,528,300 for design and initiate construction. FY 2005: $240,000 to continue construction. FY 2006: $220,000 to continue construction effort. Future Years: $69,100 to complete construction.

(16) Derrick boat No.10, Crane and Shop Barge Replacement MDC 2559 – Nashville District (Continuing). The replacement will be a deck barge with spuds, a small workshop and a reinforced deck, which will allow the future addition of a heavy lift crawler crane. In addition, the existing barge is under-sized to handle the increasingly complex maintenance activities at aged lock structures, and will not have the capacity to maintain the new Kentucky Lock. This acquisition is consistent with the Floating Plant Improvement Plan to replace smaller barges approaching the end of useful life with larger capacity barges. The barges support construction and maintenance activities on the 1,170 miles of navigable channels and 14 navigable locks. The barges are used to transport equipment such as mobile cranes and structures such as lock closure structures, mooring cell templates and lock dewatering pumps related to lock and dam maintenance activities. Total estimate cost: $6,365,900. Through FY 2004: $6,035,900 for design and construction. FY 2005: $320,000 to continue construction effort. FY 2006: $10,000 to substantially complete construction.

(17) Crawler Crane, MDC 2643 – Nashville District (Continuing). This large capacity mobile crane replaces the oldest Derrick Boat No. 10 in order to meet the growing workload and heavy lift requirements on the 1,170 miles of navigable channels and at 14 navigation locks. The new crane will support construction and maintenance activities and operate from the new shop/crane barge (MDC 2559) currently under construction. Two aged derrick boats that see extensive utilization have inadequate lifting capacities of less than 75,000 lbs at a fifty-foot radius. Derrick Boat No. 10 frequently makes lifts that exceed 90 percent of its rated lifting capacity causing abnormal wear on machinery and components resulting in higher maintenance cost and increased downtime. Serious damage to the Derrick boat and the possibility of injury to employees could occur. Total estimated cost: $3,800,000. Through FY 2004: $10,000 to initiate design. FY 2005: $3,463,000 to complete design and initiate construction. FY 2006: $302,000 to continue construction effort. Future Years: $25,000 to complete construction.

(18) Maintenance Gate Barge and Spare Gates MDC 2492 – Rock Island (Continuing). Acquire spare gate barges to be available to return a lock to service. The age of the lock structures, over 60 years old, combined with heavy usage, results in both sets of spare gates on hand being in use most of the time. In the event of the failure of an additional structure and without additional spare gate replacement capability, there would be none available to return a lock to service. In that event, without the rapid replacement of a damaged gate, commercial traffic on the Mississippi River could be delayed due to a lock shut down creating a substantially negative economic impact. It is estimated that the economic cost to the region would be approximately $10,000,000 over the next 40 years, the estimated life of the gate barge. Due to rising steel prices, the original cost estimate has increased from $4,710,000 to $5,787,700, an increase of $1,077,700 (23%). Total estimated cost: $5,787,700. Through FY 2004: $5,557,200 for design and construction. FY 2005: $150,000 to continue construction. FY 2006: $80,500 to complete construction.

(19) Crane Barge MAZON Replacement MDC 2509 – Rock Island District (Continuing). Replace the Crane Barge MAZON that in the last six years has had an average of six weeks of down time per year due to repairs. The Crane Barge MAZON hull is worn thin, in need of repairs and at the end of its useful life. The crane, built in 1970, is continuously breaking down. The MAZON is required to be available 52 weeks of the year and is used for strike removal and stone placement on the Illinois River, as well as for lock and dam work throughout the Illinois River basin from Chicago to Grafton, and occasionally the Ohio and Mississippi rivers. The lack of a rapid response capability will delay navigation and cause economic harm. In addition, the MAZON has no restroom facilities, limited storage space and no transport capability for the crane. The estimated cost: $4,126,700. Through FY 2004: $3,909,100 for design and construction. FY 2005: $207,700 to continue construction effort. FY 2006 $9,900 to complete construction.

(20) Crane Barge KEWAUNEE Replacement MDC 2481 – Rock Island (Continuing). Replace the KEWAUNEE crane barge, which is 88 years old, because it has suffered corrosion combined with normal wear and tear that has deteriorated it to the point where repairs are no longer feasible. A breakdown of the KEWAUNEE crane barge causes costly delays to accomplishment of the mission. The KEWAUNEE is used to support the Quad Cities crane barge during gate changes and to provide daily support to structural maintenance gate repairs. The cranes and barges are vital to the operation of the maintenance unit for repairs to the miter gates. The barge, constructed in 1913, was converted to a crane barge in 1981. The crane is near the end of its life. The original estimate of $5 million is revised to $9,175,000 increase of $4,165,000 (83%). Total estimated cost: $9,175,000. Through FY 2004: $120,000 for design. FY 2005: $100,000

continue design effort. FY 2006: $8,950,000 to initiate construction. Future years: $355,000 to complete construction.

(21) Towboat ROCK ISLAND Replacement MDC 2555 – Rock Island District (Continuing). . Replace the 31-years-old Towboat ROCK ISLAND that has developed extensive pitting on the hull exterior requiring a costly hull replacement below the waterline. The internal black water-holding tank, an integral part of the hull, has corroded through and has been abandoned in place due to the high cost of replacement. In addition, the ROCK ISLAND is underpowered and requires additional horsepower to move the fleet safely. Continued operation of the boat under current conditions will result in increased maintenance costs and reduced reliability. The Towboat ROCK ISLAND is used to support the M/V Bettendorf, transport the structure maintenance fleet and tend the Derrick Boat KEWAUNEE during gate changes. Total estimated cost: $7,055,000. Through FY 2004: $6,362,100 for design and construction. FY 2005: $250,000 to substantially complete construction. FY 2006: $30,000 to continue construction effort. Future years: $412,900 to complete construction.

(22) Towboat M/V George W. Britton Replacement MDC 2350– Huntington District (Continuing). Replace The M/V George W. Britton (Towboat 71) because its underpowered 1200 horsepower propulsion system impairs the ability of the vessel master or pilot to move the fleet safely and efficiently. The M/V George W. Britton is used to transport the repair fleet floating plant to perform scheduled or emergency maintenance to 400 miles of navigable channels and navigation structures on the Ohio and Kanawha Rivers. The floating plant has nearly double its original size, capacity and tonnage in recent years. Transport of existing floating plant from one project to another during high water periods requires two trips. During high water periods, the Britton's rate of travel is often slowed to less than one mile per hour pushing on one-half the fleet. The economic analysis shows that re-powering the Britton is slightly cheaper than the cost of acquiring a new towboat. However, re-powering would extend the useful life of the Britton by only ten years whereas, a new towboat has a 40-year life. Total estimated cost: $6,300,400. Through FY 2004: $6,148,300 for design and initiate construction. FY 2005: $120,000 to continue construction. FY 2006: $5,000 to continue construction effort. Future Years: $27,100 to complete construction.

(23) Derrick boat No. 49 Replacement MDC 2313 - Huntington District (Continuing). Replace Derrick Boat No. 49 because it does not have sufficient capacity to handle the more massive components such as culvert valves, maintenance bulkheads, and dam operating equipment. It is used to perform maintenance of nine navigation structures on the Ohio and Kanawha Rivers and responds to breakdowns and emergency work of navigable channels. Derrick boat No. 49 built, in 1951 is reaching the end of its economic life. Technology and government standards have changed significantly since it was constructed necessitating expensive modifications and retrofitting. In addition, many of its replacement parts are difficult to obtain and operating systems are obsolete. An economic analysis showed that acquisition of a replacement derrick boat was more cost effective (NPV savings of $15.5 million) than rehabilitation of the existing boat. Total estimated cost: $2,730,800. Through FY 2004: $2,720,800 for design and construction. FY 2005: $10,000 to complete construction.

(24) Towboat M/V LIPSCOMB Replacement MDC 2520 – Vicksburg District (Continuing). The proposed replacement vessel would have more horsepower and a modernized hull design for increased towing and operational efficiency. The new vessel would require a smaller crew. The M/V LIPSCOMB is used to support revetment construction and maintenance along about 1,000 miles of navigable channels on the Mississippi, Atchafalaya and Red Rivers, and Channel Patrol on the Mississippi River. The M/V LIPSCOMB was built in 1958 and has outlived its normal economic life by 2-1/2 years. Furthermore, the LIPSCOMB has no compartment flood ability that is a major safety issue for crew and passengers. The Corps standard is one-compartment damage stability for this type vessel. The original government estimate of $5.9M to replace the LIPSCOMB included cost and pricing data from a series of smaller, less powerful vessels was revised in 2004to $8.5M, an increase of $2.6M. The currently revised total estimate is $9,296,700 adjusts costs to reflect the differences in size, horsepower, and additional items to meet mission requirements, an increase by $750,000. The updated economic analysis shows the replacement of the LIPSCOMB is more cost effective, with a NPV of $57.8 million, 17% less than the alternative of maintaining and repairing the existing vessel. Total estimated cost: $9,296,700 10% increase. Through FY 2004: $8,926,700 for design and construction. FY 2005: $250,000 to continue construction. FY 2006: $110,000 to continue construction effort. Future Years: $10,000 to complete construction.

(25) Six (6) Deck Cargo Barges Replacement MDC 2543 – Rock Island District (Continuing). The replacement of deck cargo barges is necessary for the

maintenance of the 9' channel. The six barges to be replaced (545, 549, 653, 900, 901 and 903) are no longer serviceable. They have developed structural problems with the deck plate and internal bulkheads due to years of rough usage being loaded with heavy rock, up to 400 lbs. The barges are used to transport riprap used to repair and construct water control structures required for navigational traffic on the upper Mississippi and lower Illinois Rivers. The Fish and Wildlife Service has recommended the use of heavier rock (up to 700 lbs.) for repairs and bank protection, which will cause additional wear and caving of the deck surfaces of the old barges. The extended use and increased poundage may induce early retirement from service to prevent a catastrophic failure. A loss of the barges would mean a loss of 25% capability, and a 35% loss of efficiency due to greater material transport time. The economic analysis showed replacing the six barges was the most cost effective (NPV savings of $1.6 million) compared to contracting-out the work. Total estimated cost: $2,796,600. Through FY 2004: $2,785,200 for design and to substantially complete construction. FY 2005: $11,400 to complete construction.

(26) Replacement Towboat, M/V RAYMOND C. PECK (MDC 2389) - Pittsburgh District (Continuing). Replace the Towboat, M/V RAYMOND C. PECK, constructed in 1983, because it is underpowered relative to current demands. The M/V PECK is a 1200 HP diesel powered towboat and, its underpowered propulsion system often requires two trips to handle larger barge tows, and extreme river or weather conditions. An economic analysis showed that it would be less than 2% cheaper to repower the PECK to 2400 HP than to replace it with a new vessel. The towboat is used in mobilization of the repair fleet for major maintenance of 23 navigation structures on the Ohio, Allegheny and Monongahela Rivers; channel maintenance of 327 miles of navigable river; and for response to navigation emergencies. While repowering is the cheaper alternative, new construction is favored due to concerns regarding how well the repowered vessel would handle the more adverse environmental conditions and because the vessel would have significantly higher operations and maintenance costs over the remaining economic life. Total cost: $6,043,500. Through FY 2004: $5,918,900 for design and construction. FY 2005: $90,000 to continue construction. FY 2006: $5,000 to continue construction effort. Future Years: $29,600 to complete construction.

d. Fixed Land Plant and Automated Systems

(1) Radio System – Portland District (New). The Department of Defense participated in the 2002 national decision to identify radio frequency spectrum for commercial advance wireless mobile services. The result proposed that 45 MHz of government spectrum, primarily used by DOD, would be made available for advance wireless mobile service. As such, the Federal Communication Commission is formalizing the transfer of that frequency band to nongovernmental use and DOD must cease operation in the band by 1 January 2008. During emergencies (earthquake, floods, storms, etc) commercial phone systems become overworked and jammed, making it very difficult to communicate with dredges, survey boats, hydro projects for Dam Safety and Reservoir Control functions and other remote locations. Total estimated cost: $840,000. FY 2006: $745,000 to initiate construction. Future Years: $100,000 to complete construction.

(2) Facilities and Equipment Maintenance (FEM) System – Corps-wide (Continuing). Facilities and Equipment Maintenance (FEM) was developed by the Department of Defense (DOD) Joint Logistics Systems Center (JLSC) (now managed by the DOD Program Manager – Navy Systems Support Group) to meet the needs of DOD organizations with equipment and facilities maintenance responsibilities. Currently the components of the Air Force, the Navy, the Marines, and the Army are utilizing FEM to manage equipment and facility maintenance. FEM has two principal benefits for the Corps. First, it provides a standard system for managing maintenance requirements of Civil Works projects, facilities and equipment. In the absence of a standard system, field offices either have developed their own automated tools or have continued to manage with non-automated paper-based processes. Implementation of FEM will eliminate duplicative software development and maintenance efforts and extend the efficiencies of automated maintenance management to all Corps activities. Automation of maintenance management in general and FEM in particular will extend equipment/plant service life, reduce maintenance labor costs, and reduce the replacement part inventory requirements. Second, FEM provides the Corps with a proven system based on a commercial off-the-shelf (COTS) application that interfaces with other Corps legacy systems such as the Corps of Engineers Financial Management System (CEFMS), Automated Personal Property Management System, Real Estate Management Information System, and will replace the functionality currently provided by the Vehicle Information Management System. This system is also the information technology enabler for the operations and maintenance piece of the Corps Project Management Business Process. In addition, FEM will standardize

the maintenance business process Corps-wide. The estimated capital cost for implementing FEM was identified as $4,562,000 initially, which was adjusted for an additional cost of $2,313,000 due to a change in pricing and settlement of a contract dispute. This baseline submission did not adequately address system interface costs, which was discovered during the development phase. This resulted in additional surveys of Corps activities to identify additional data and local legacy systems that would require contractor support in converting to the new system. This will result in an increase in requirements to support the change required to realize business values and efficiencies associated with the automated tool. A revised Benefit Cost Analysis (BCA) validated business value benefits with a Net Present Value of $3.578M with annual cost avoidance of $1.285M in FY 02, $2.812M in FY 03 and $4.149M. Total estimated cost: $7,459,943. Total cost through FY 2004: $7,132,919. FY 2005: $327,024 to complete design and development.

(3) Corps of Engineers Automation Plan (CEAP) (Continuing). The capital acquisition portion of CEAP, renamed Corps of Engineers Enterprise Infrastructure Services (CEEIS) was created to replace the Corps mainframe computing hardware consisting of leased Honeywells at the division level and Corps-owned Harris computers at the district level. The Corps awarded a contract to the Control Data Systems, Inc., in October 1989 for hardware/software acquisition and support services. The contract was structured for maximum flexibility, not committing the Corps beyond the first year but providing the Corps with 10 annual renewal options. The contract also provided for a pilot test at the Southwestern Division, the Waterways Experiment Station, and the former Headquarters' Engineer Automation Support Activity. Based on pilot and stress test results and a cost comparison of various deployment scenarios, the Corps redeployed pilot test equipment to two large regional processing sites, one in Portland, Oregon and the other in Vicksburg, Mississippi. To maintain a viable corporate-wide system at these two regional sites, the Corps has invested in additional mainframe processing capacity, operating software, additional storage capacity, communications devices, and associated processors to link all Corps sites to the two regional centers. FY 2004 and prior requirement: $88,960,200. FY 2005: $3,300,000**.** FY 2006: $3,000,000. Future Years: $6,600,000.

e. Tools, Office Furniture and Equipment

(1) Environmental Laboratory, Fourier Transform Ion Cyclotron Resonance Ion Tran Mass Spectrometer – Waterways Experiment Station (New). The Fourier Transform Ion Cyclotron Resonance Ion Tran Mass Spectrometer is a research instrument that provides state-of-the-science means of resolving and structurally characterizing components of extremely complex mixtures of organic molecules. This research instrument is widely applicable to the Corps of Engineers Civil Works research and development programs to include support to Homeland Security in environmental forensics and cleanup missions of hazardous and toxic waste and contaminated sediment. Total estimated cost: $893,000. FY 2006: $893,000 for acquisition of asset.

(2) Carpentry Shop/Missouri River Project Administration Building Replacement - Omaha District (Continuing). This construction of a new facility was originally approved as FY 2004 minor item. The existing facility is currently undersized to support the growing staff and mission of the Missouri River Project. The facility is a metal structure built in 1949 as a carpentry shop and yard office. It has gone though several renovation and modifications over its 55 year history. The facility does not meet current building codes or ADA aisle space requirements; electrical and mechanical systems are in need of replacement; metal roof leaks; exterior metal wall panels are dented and rusted and no longer hold paint; wood windows are rotting and not energy efficient. Steel and material prices have increased $195,000 since original cost estimate of $500,000. An economic analysis showed the construction of a new facility was the least cost alternative with a NPA of $683,000 compared to a NPV $994,000 for upgrade to existing facility. Total estimated cost: $695,000. Through FY 2004: $80,000 for design. FY 2006: $615,000 for construction.

(3) Walla Walla District Headquarters Building, Judgment Fund Payment – Walla Walla District (Continuing). The Department of Treasury has requested repayment of $1,541,284.85 for a Judgment Fund payment to North American Mechanical Services Corporation, d/b/a North American Construction Corporation, in October 2002. The provisions of 41 USC 601, the Contract Disputes Act, requires Federal agencies to reimburse the Judgment Fund. Total estimated cost: $1,541,285. FY 2005: $1,541,285 judgment fund payment.

(4) Sardis-Arkabutla Project Management Office - Vicksburg District (Continuing). The building currently occupied by the Project office was built in the early 1940s and was remodeled in 1995. However, it does not meet the current needs of the project office personnel. The building was originally procured from Sardis Lake project funds (CWIS 000600), but is now being utilized in support of Sardis Project Management Office, which includes Sardis Field Lake Office and Arkabutla Lake Field Office. The remodeled project office building provides space for the Project Manager and his administrative staff. The professional staff works out of a trailer that is adjacent to the project office building. The proposed plan adds one wing and a basement to the project office building. The basement design was derived from a need for supporting structure for the addition, housing for a chair lift, a mechanical room, and exit stairwell for fire egress. The addition will meet +employee space utilization requirements criteria, provide employee work space in a central location to increase productivity/efficiency, provide adequate supply/equipment storage, and contain electrical systems that meet current technological requirements. The original estimate of $1,360,000 is increase by $122,500 (9%) due to complexity of design associated with the existing building configuration. Total estimated cost: $1,482,500. FY 2005: $219,200 for design. FY 2006: $1,263,300 for construction.

(5) Ouachita-Greeson-DeGray Project Management Office - Vicksburg District (Continuing). The new Ouachita-Greeson-DeGray Project Management Office has evolved around the three Arkansas Lake and power plant projects and their associated mission-essential operational facilities. Today, there are 155 Government employees and 74 contract employees working out of this office. The existing facility space being utilized is not adequate for current staff, essential employee training purposes or joint meeting requirements. Employees are required to attend joint meetings, training courses and conference sessions several times annually. Personnel are left with no adequate facility available for these purposes based on the remote location of these projects. The building currently occupied by the Ouachita Project Management Office will be turned over to the contractor for their use; shop personnel will utilize the building currently occupied by the Lake Ouachita Field Office. All other shop and maintenance space will continue to be used as is. Ouachita Project Management Office and Lake Ouachita Field Office personnel will use the new facility as office space. The Ouachita Project Management Office and its subordinate Lake Field Offices and Power Plants will also use the facility for conferences, meetings, and classroom/training space. The new facility will conform to employee space utilization/requirements specified in AR 405-70, provide space for all employees to meet in a central location, fill ongoing need for classroom/training space, provide storage for supplies and equipment, and meet current technological requirements for communications and electrical systems that can be upgraded in the future. The original estimate of $3,208,000 is increase by $362,000 (11%) due to complexity of design associated with the evaluation of the site location and surrounding terrain. Total estimated cost: $3,570,000. FY 2005: $659,400 for design. FY 2006: $2,000,000 to initiate construction. Future Years: $910,600 to complete construction. 11% increase.

(6) Zorinsky Building GSA Leasehold Improvement and Furniture – Omaha District (Continuing). The Edward Zorinsky Federal Building, a GSA owned building is currently undergoing a complete building renovation. To accommodate the renovation, the Omaha District has temporarily moved its Headquarters to three temporary locations, returning to the Zorinsky Building in January 2004. During GSA's renovation of the building, the district is responsible for the build-out of a secure communications room for a classified messages system and communication for workstations to the local area network (LAN). In addition, the plans include purchase modular/systems furniture for 830+ employees. The existing furniture used at the temporary locations, moved from the Zorinsky Building, range from 5-year-old systems furniture to 30-year stand-alone furniture with conditions ranging from good to unserviceable. This furniture requires an average of 190 square feet per person. The purchase of new system/modular furniture will reduce the average space utilization to 130 to 160 square feet per person, thus reducing the footprint by 30 - 60 sq feet per employee. Upon completion of the renovation of the Zorinsky Bldg, GSA anticipates the rent will be at least $20.00 per sq foot. Saving just 30 sq feet per person with 830 employees is a cost avoidance or savings of $458,000 per year in rent. Total estimated cost: $7,111,000. FY 2005: $7,111,000 for leasehold improvement and furniture purchase.

APPROPRIATION TITLE: Interagency and International Support, FY 2006

JUSTIFICATION:

Interagency and International Support (IIS), the manpower for which is separately resourced by the Office of Management and Budget, is reimbursable work performed by the Army Corps of Engineers and funded by various Federal agencies, states, political subdivisions of states, and other entities, under applicable Federal law. The program fills a void for many agencies, which do not have adequate capability to execute the engineering related needs of their missions or manage the engineering or construction contracts with private firms. The reimbursable assistance the Army Corps of Engineers provides is primarily related to technical oversight and contract management.

In FY 2005, the Army Corps of Engineers estimates support will be provided to over 60 various Federal agencies. The estimated dollar value of our efforts including construction is estimated to be $950 million. The actual program size will depend on several factors: the requesting agency's appropriation which is often not known until the first quarter (or later) of the fiscal year, final agency decisions made on how and when the appropriated funds will be dispersed for projects, and the magnitude of natural emergencies.

MAJOR FEATURES OF THE FY 2005 PROGRAM:

The Corps executed $950 million worth of work in support of non-DoD agencies. This work consists of one large (~$300 million) reimbursable program [Superfund program for the Environmental Protection Agency (EPA)] and support to approximately 60 other Federal agencies and the Government of the District of Columbia, ranging in size from a few thousand to over $100 million. Since 1998 the Corps has had special Congressional authorization to provide engineering, environmental and construction management services to the District of Columbia Public Schools to assist them in bringing their schools up to building and safety code requirements. The Corps continued its support to U.S. Agency for International Development (USAID) in Iraq and Afghanistan by providing oversight services for private sector reconstruction contracts and initiated support to USAID on Indian Ocean Tsunami recovery. The Corps also initiated support to the Millennium Challenge Corporation.

Examples of work for other Federal agencies in FY 2005 include construction grant monitoring for the Department of Housing and Urban Development; design and construction of facilities for Department of Justice agencies, Immigration and Naturalization Service and Bureau of Prisons; and study, design, engineering, and construction assistance for various Department of Interior agencies such as the National Park Service, the Fish and Wildlife Service, and the Office of Insular Affairs. Work continued for the Federal Emergency Management Agency (FEMA) on recovery for Florida's hurricane.

ACCOMPLISHMENTS FOR FY 2006

The Corps will execute approximately $950 million in support of other agencies programs in FY 2006 which will include: Environmental Restoration related work - $300 million of work related to the EPA's programs and $50 million of environmental restoration work for other agencies and Facilities and Infrastructure related work - $550 million of work related to engineering, design and construction such as the design and construction of dormitories, administration and detention facilities for the Immigration and Naturalization Service, emergency management in support of FEMA and improving homeland security measures for several other Federal agencies. The Corps expects to continue oversight work for USAID.

INFORMATION TECHNOLOGY COSTS
(Formerly Automation Costs)

The Army Corps of Engineers uses information technology in all phases and aspects of its operations from the planning and design of projects through their operation and maintenance; from the collection and analysis of hydrographic data to control flows in the nation's rivers to the management of fiscal and human resources; and from the search for legal precedents to the review of construction contractor performance histories. Civil Works expenditures for automated information systems include acquisition of commercial software packages and the design and development of applications to meet unique engineering requirements; the acquisition of personal computers, laptops, and the network servers for processing centers used by thousands of employees; and the leasing of long distance lines for e-mail and high speed transfer of engineering and other data among Corps of Engineers locations.

As shown on the following table, this year's projected Civil Works costs have been organized according to information technology programs. Within each of the programs, data are provided for the major projects, which for the most part are sponsored by Headquarters and used Corps-wide. In addition, data are provided for a group of small/other IT investments consisting largely of automated information systems (AIS) at the local level or Headquarters initiatives that did not fit within the major program mission areas, and for specific investments designed to meet the objectives of the President's Management Agenda, E-Government initiative. Previously, the costs were reported in separate categories for acquisition of hardware and associated commercial off-the-shelf software (COTS), automated information systems (AIS), and the estimated direct labor costs associated with information technology charged to Civil Works projects.

The programmatic management of major IT investments enables the Corps to achieve greater efficiencies within these investments. The programs are: Financial Management Services Program, Asset Management Services Program, Emergency Preparedness and Response Program, Business Management Tools Program, Acquisition Services Program, Science and Engineering Technology Program, Real Estate Management Program, and Information Technology (IT) Infrastructure and Office Automation Program, Enterprise Architecture and Planning.

Source of the FY 2006 Civil Works information technology costs data is the Information Technology Investment Portfolio System (ITIPS).

INFORMATION TECHNOLOGY INITIATIVES	FY 2006 Civil Works Requirement
Financial Management Services Program	
- COE Enterprise Management Information Systems (CEEMIS)	400,000
- COE Financial Management Systems (CEFMS)	8,000,000
Subtotal	8,400,000
Asset Management Services Program	
Automated Personal Property Management System (APPMS)	400,000
- Facilities and Equipment Management System (FEM)	4,300,000
Subtotal	4,700,000
Emergency Preparedness and Response Program	
- Deployable Tactical Operations System (DTOS)	2,100,000
- ENGLink Interactive (ENGLINK)	2,000,000
Subtotal	4,100,000
Business Management Tools Program	
- Operations & Maintenance Business Info Link PLUS (OMBIL)	4,200,000
- PROMIS Phase II (P2)	2,100,000
- Resident Management System (RMS)	1,200,000
Subtotal	7,500,000
Acquisition Services Program	
- Architect-Engineer Contractor/Construction Contract Appraisal System (ACASS/CCASS)	430,000
Subtotal	430,000
Science and Engineering Technology Program	
Modeling Tools (AET, CACES, CADD, NUMMOD, DRCHECKS, SI)	20,600,000
Common Delivery Framework (CDF)	400,000
Enterprise Geospatial Information System (E-GIS)	8,000,000
Corps Water Management System (CWMS)	2,200,000
	31,200,000

INFORMATION TECHNOLOGY INITIATIVES	FY 2006 Civil Works Requirement
Real Estate Management Program	
- Real Estate Corporation Information System (RECIS)	400,000
- Real Estate Management Information System (REMIS)	5,400,000
- Subtotal	5,800,000
Information Technology Infrastructure	
Consolidated IT Infrastructure/Office Automation/Telecommunications (I/OA/T)	216,770,000
Subtotal	216,770,000
Civil Works Program (Small/other)	
- Natural Resources Management Gateway	400,000
- SignPro	100,000
- Recreation.Gov & Recreation One-Stop Web Page Support	100,000
- Inland Electronic Navigation Chart (IENC) Program. Program is in partnership w/National Oceanic & Atmospheric Administration, Coast Guard & River Boat Pilot Association	4,000,000
- CorpsMap	200,000
- Geospatial One-Stop and National Spatial Data Infrastructure (NSDI)	400,000
- Volunteer Government/	300,000
Corps of Engineers Automated Legal System (CEALS)	200,000
Subtotal	5,700,000
Enterprise Architecture and Planning	
Corps Enterprise Architecture	200,000
Knowledge Management Environment	2,500,000
Small /Other for Architecture and Planning	100,000
Subtotal	2,800,000
Total Funding	**287,400,000**

Justification of Estimates for Civil Functions Activities
Department of the Army, Corps of Engineers
Fiscal Year 2006

Summary of Budget Request for Inland Waterway Trust Fund Projects

Project Name	Construction, General Appropriation $	Inland Waterways Trust Fund $	Total $
Construction			
Locks & Dams 2, 3 & 4, Monoghela River, PA	25,400,000	25,400,000	50,800,000
Marmet Lock, Kanawha, River, WV	34,415,000	34,415,000	68,830,000
McAlpine Locks & Dams, IN & KY	35,000,000	35,000,000	70,000,000
Olmsted Locks and Dam, IL & KY	45,000,000	45,000,000	90,000,000
Robert C. Byrd Locks and Dam, WV & OH	457,000	457,000	914,000
(Locks)	(457,000)	(457,000)	(914,000)
(Dam Rehabilitation)	(0)	(0)	(0)
Winfield Locks and Dam, WV	1,200,000	1,200,000	2,400,000
Total - Construction	141,472,000	141,472,000	282,944,000

Justification of Estimates for Civil Functions Activities
Department of the Army, Corps of Engineers
Fiscal Year 2006

Summary of Budget Request for Inland Waterway Trust Fund Projects

Project Name	Construction, General Appropriation $	Inland Waterways Trust Fund $	Total $
Rehabilitation			
Emsworth Locks and Dam, Ohio River, PA (Rehab)	7,500,000	7,500,000	15,000,000
Lock and Dam 11, Mississippi River, IA (Rehab)	3,790,000	3,790,000	7,580,000
Lock and Dam 19, Mississippi River, IA (Rehab)	8,751,000	8,751,000	17,502,000
Lock and Dam 24, Mississippi River, IL & MO (Rehab)	2,150,000	2,150,000	4,300,000
Total - Rehabilitation	22,191,000	22,191,000	44,382,000
Gross Total - Construction and Rehabilitation	163,663,000	163,663,000	327,326,000
Reduction for Anticipated Savings and Slippage	(7,663,000)	(7,663,000)	(15,326,000)
Net Total	156,000,000	156,000,000	312,000,000

SUMMARY OF APPROPRIATIONS

APPROPRIATION TITLE	FY 2005 Appropriation 1/	FY 2006 Request	Increase (Decrease)
General Investigations	$ 144,500,000	$ 95,000,000	$ (49,500,000)
Construction, General	1,796,100,000	1,637,000,000	(159,100,000)
Operation and Maintenance, General	1,959,100,000	1,979,000,000	19,900,000
Flood Control Mississippi River and Tributaries	324,500,000	270,000,000	(54,500,000)
Regulatory Program	145,000,000	160,000,000	15,000,000
Flood Control and Coastal Emergencies	0	70,000,000	70,000,000
ASA(CW)	4000000	0	(4,000,000)
General Expenses	167,000,000	162,000,000	(5,000,000)
Revolving Fund	0	0	0
FUSRAP	165,000,000	140,000,000	(25,000,000)
Permanent Appropriations	14,008,192	18,000,000	3,991,808
Total	$ 4,719,208,192	$ 4,531,000,000	$ (188,208,192)

1/Consolidated Appropriations Act, 2005. Does not include the 0.80 percent rescission.